REPORT DOCUMENTATION PAGE
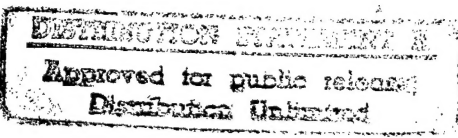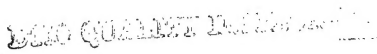
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1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE 7 Jan 98	3. REPORT TYPE AND DATES COVERED

4. TITLE AND SUBTITLE
THE POST-SERVICE SOCIOECONOMIC STATUS ATTAINMENT OF WOMEN VETERANS OF THE ALL-VOLUNTEER FORCE

5. FUNDING NUMBERS

6. AUTHOR(S)
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
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8. PERFORMING ORGANIZATION REPORT NUMBER

97-158

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
THE DEPARTMENT OF THE AIR FORCE
AFIT/CIA, BLDG 125
2950 P STREET
WPAFB OH 45433

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION AVAILABILITY STATEMENT
Unlimited Distribution
In Accordance With AFI 35-205/AFIT Sup 1

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

19980113 218

DTIC QUALITY INSPECTED

14. SUBJECT TERMS

15. NUMBER OF PAGES
174

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT

ABSTRACT

Title of Thesis:	THE POST-SERVICE SOCIOECONOMIC STATUS ATTAINMENT OF WOMEN VETERANS OF THE ALL-VOLUNTEER FORCE
Author:	Richard Thomas Cooney
Rank and branch:	Captain, USAF
Number of Pages:	174
Degree and year:	Master of Arts in Sociology, 1997
Institution:	University of Maryland at College Park

This thesis investigates the impact of military service on the socioeconomic status of women veterans of the post-1973 U.S. all-volunteer force by comparing the earnings and family income of women veterans to similar non-serving women. Data from the 1990 Public Use Microdata Sample L were used in this analysis. This data set is a .45 percent sample drawn from 1990 Census data and contains information on 1,139,142 individuals. These data are delineated by labor market area, which allows for the calculation and control of local labor market conditions. Military service may directly impact status attainment by increasing a woman veteran's human capital and/or her ability to convert human capital into socioeconomic status. Additionally, military service may also affect status attainment indirectly through its influence on familial variables (e.g., number of children, marital status) and through employers' perceptions of the capabilities of veterans relative to non-veterans. Using semilogarithmic regression, I found that, overall, African-American women veterans, white Hispanic women veterans,

and women veterans in other minority racial/ethnic categories did not differ significantly from their non-serving counterparts, controlling for several factors associated with socioeconomic status. White, non-Hispanic women veterans, however, suffered an earnings and family income penalty relative to similar non-serving women. The data suggest that this veteran disadvantage may be due to the interaction of military service, childbearing patterns, and educational attainment. Comparisons between veterans and their active duty and Guard/Reserve counterparts are made and the impact of the concentration of military and ex-military personnel within local labor markets is discussed.

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INTRODUCTION

The impact of military service on an individual's post-service socioeconomic status attainment has concerned economists and sociologists alike over the past several decades. Yet, with all the research that currently exists, there is very little consensus about what effect, if any, military service has on a person after he or she leaves the military. Trends found with one data set using one methodology often differ from those using either different samples or slightly different methods.

In addition to their difficulty confirming the findings of other studies, research has been lacking in other areas. The most notable deficiency is the exclusion of women veterans from study until 1984 (Poston, Segal, and Butler 1984). Although this group has been studied by a handful of individuals since that time, it continues to be poorly represented in the published literature.

The lack of attention paid to female veterans prior to 1984 can largely be attributed to their exclusion from or minimal representation in databases containing information regarding veteran status. For example, prior to 1980, the United States' decennial census of population and housing asked only men about their military service (Poston, Segal, and Butler 1984). Likewise, the U.S. Bureau of Labor Statistics did not begin to include information on women's veteran status in data from the Current Population Survey (CPS) until 1986 and did not regularly record this information until 1989 (Roca 1986; Mehay and Hirsch 1995).

Some may argue that, due to women's limited participation in the military up to this time period, there were not enough women veterans to be sampled. While it is true

that women constituted only about five percent of the United States' total military force in 1976, there were about 450,000 women veterans from World War II and the Korean War and 250,000 women Vietnam veterans (Binkin and Bach 1977; Roca 1986). These numbers do not even include the peace-time women veterans, who numbered about 330,000 in 1986 (Roca 1986). With an increase in the participation of women in the military (from less than 2% of the total force in 1972 to over 13% in 1996), women veterans have become and are likely to remain a significant population in need of study (AFIS 1996; WREI 1996).

It is in light of this deficiency that I concentrate my research efforts on the study of women veterans of the post-1973 all-volunteer force (AVF). In general, I ask the question: How does service in the United States Armed Forces influence post-service status attainment for women veterans? I attempt to answer this question by comparing the socioeconomic status attainment of women veterans to that of women who have not served. I use a human capital perspective, largely based on the work of Browning, Lopreato, and Poston (1973). These researchers have suggested that the military may serve as a "bridging environment" for some individuals. They define such an environment as one "in which the individual may acquire new skills and abilities, which, after military service, could help him [or her] in his [or her] civilian career" (p.76). While Browning, Lopreato, and Poston (1973) obviously intended this environment to operate on men, and more specifically, minority men, it is not without applicability to women. I will later describe exactly how the military may serve as a bridging environment for women.

In addition to the bridging environment hypothesis, I will provide two other theoretical explanations as to how the military may influence the socioeconomic status of women veterans. First, the military may influence socioeconomic status indirectly via its influence on certain familial variables such as marital status and fertility; being unmarried and having fewer children have been linked to positive socioeconomic outcomes for women (Duncan, Prus, and Sandy 1995). Then to the extent that military service decreases the probability of a woman marrying or having children, women may gain some earnings advantage indirectly from military service. Second, an individual's veteran status may serve as a signal to civilian employers that he or she has previously met certain rigorous physical, mental, and productivity standards and is, thus, likely to be a productive worker and worth more than similar non-veterans in the civilian labor market (DeTray 1982).

I begin this study with a more detailed explication of my theoretical framework. I will examine human capital theory and the bridging environment, how the bridging environment hypothesis may be applied to women veterans, the implications of military service for familial considerations, veteran status as a screening device, and an important alternative explanation, selection bias. I will then review, summarize, and critique the previous research (prior studies of male and female veterans) relevant to my study. Next, I will state my hypotheses and describe the methodology which I have used to test them. Lastly, I will present and analyze the results of my study and attempt to draw some conclusions concerning the socioeconomic status attainment of women veterans of the AVF.

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THEORETICAL FRAMEWORK

<u>Human Capital Theory and the Bridging Environment</u>

Human capital theory can largely be thought of as a cost/benefit analysis of the decisions one makes in life controlling for the attributes with which one is endowed (Phillips et al.1992). The costs and benefits of these decisions are often measured in terms of socioeconomic status, e.g., occupational prestige, income, or educational attainment. Decisions that result in an increase in an individual's potential to raise his or her socioeconomic status are said to be beneficial and can be conceptualized as a gain in human capital.

For example, an individual who decides to attend a four-year college immediately after graduating from high school instead of entering the labor market directly will incur the cost, in many cases, of having to pay tuition and forgoing earnings by working part time or in a job with limited prospects for a career. However, after graduating from college, one's income is likely to rise dramatically (above that of the direct entry laborer) as a result of the added human capital which his or her degree provides. Thus, the life decisions one makes can be seen as investment decisions (Phillips et al. 1992; Fredland and Little 1985). Investments are made based on the calculated payoff of the training, education, or experience gained from any given choice.

One such investment an individual can make is to join the military. Browning, Lopreato, and Poston (1973) elaborated on how a gain in human capital could be achieved via service in the armed forces. They propose that the military provides its members with certain skills and abilities that increase their post-service marketability in

the civilian labor force and, thus, their socioeconomic status. That is, the military

provides a bridge to a higher post-service socioeconomic status by allowing the soldier

to gain human capital which can be used to achieve a larger salary, a more prestigious

occupation, etc. Hence, the military has been referred to as a bridging environment

(Browning, Lopreato, and Poston 1973).

The bridging environment operates via several aspects of military service. First,

the military offers its soldiers opportunities to gain both training and education

(Browning, Lopreato, and Poston 1973; Lopreato and Poston 1977). The training in

one's military specialty may be directly transferable to a civilian occupation. In turn, one

may be able to earn higher wages or gain entry to a more prestigious job based on

experience gained in their specialty. In fact, Mangum and Ball (1987; 1989), using a

sample of 811 veterans and individuals who had left the military prior to the end of their

enlistment (drawn from the National Longitudinal Surveys-Youth Cohort, 1979-1984),

found that that 47.8% of the veterans and 45.1% of the "attritters" were able to transfer

their skills to their civilian occupations. They also reported that, if employer-specific

training is excluded, the military skills transfer rate is equal to the skills transfer rate in

the civilian sector. It should be noted, however, that this study was conducted on

individuals who were volunteers in the post-1973 all-volunteer force. The authors report

that previous studies involving conscripted personnel have shown significantly lower

transfer rates (Mangum and Ball 1989).

In addition to training, the military also has provided veterans many educational

benefits, albeit of varying quality and quantity (Cohen, Warner, and Segal 1995). These

benefits, which have been both contributory and noncontributory, provide funding to be

used for higher or advanced education. Some examples of this are the G.I. Bill, the Veterans Educational Assistance Program (VEAP), and the Montgomery G.I. Bill. According to Berger and Hirsh (1983), approximately 50% of veterans of the Vietnam era took advantage of such benefits.

A second way in which the military may increase a veteran's probability of achieving a higher socioeconomic status is by providing its soldiers with a certain amount of independence by separating them from many of the ties of the areas from which they came (Browning, Lopreato, and Poston 1973; Lopreato and Poston 1977). This is accomplished via the geographic separation of the soldier from his or her home and the forced integration of many dissimilar personnel into the same unit (Browning, Lopreato, and Poston 1973; Lopreato and Poston 1977). Separation and integration are particularly important for members of racial/ethnic minority groups who may have come from highly segregated areas. Independence may provide some of the drive or motivation necessary to relocate geographically after the completion of military service in order to benefit the veteran's civilian career (Lopreato and Poston 1977). In addition, forced integration provides minorities "exposure to mainstream achievement values" (Cohen, Warner, and Segal 1995, p.92) and experience with living and working in the "milieu of the majority group" (Martindale and Poston 1979, p.219).

The third way that the military may act as a bridging environment for some individuals is by giving soldiers the "capability to cope with and manipulate the large-scale organizational structures that increasingly typify U.S. society" (Browning, Lopreato, and Poston 1973, p.77). Veterans acquire the skills necessary to operate effectively within bureaucratic organizations, which may produce dividends when

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applying for future jobs, especially those within the state or federal government. Minorities, who may not have such experience, are thought to reap even greater benefits from this aspect of the bridging environment (Browning, Lopreato, and Poston 1973; Lopreato and Poston 1977).

It has been suggested by several studies that the military may best serve as a bridge for those with the least amount of human capital upon entering the service (Browning, Lopreato, and Poston 1973; Lopreato and Poston 1977; Little and Fredland 1979; Martindale and Poston 1979; Poston 1979; Xie 1992). Included in this group are those with less education and those of minority status who are likely to have been disadvantaged in their opportunities to gain human capital. Thus, to the extent that military service offers a payoff on the soldier's investment of service, it is most likely to be realized by those who are relatively deprived (Lopreato and Poston 1977).

As with any investment decision, there is always a risk that capital will depreciate or opportunities will be forgone that would have been more beneficial. In the case of investing in the military, one is foregoing years of his or her life that could be used to gain civilian labor force experience or civilian education. To the extent that these lost opportunities may have been more beneficial than military service, veterans will be at a disadvantage relative to their non-veteran counterparts. Browning, Lopreato, and Poston (1973) state that "Two years or more of military service will often interfere with the completion of higher education, delay the fulfillment of an apprenticeship, or impede the acquisition of on-the-job training skills, all of which are convertible into higher income at some future time" (p.75). This interruption of civilian career continuity may be especially disadvantageous to those veterans entering occupations which offer

seniority premiums (Browning, Lopreato, and Poston 1973; Cutright 1974). Therefore, those with less human capital (i.e., minorities and the less educated) who go into jobs where career continuity is relatively unimportant should see the greatest advantage from military service.

<u>Women and the Bridging Environment</u>

Although it was not originally formulated to apply to women, one can see the parallels between the way in which the bridging environment may work for racial minorities and the way that it may work for women. Women are certainly disadvantaged in their opportunities to gain and convert human capital. To a large extent, this is a result of women's culturally dictated domestic responsibilities, segregation into traditional female occupations, and the devaluation of women's work. A look at some basic evidence makes this point well. In terms of domestic responsibility, Duncan, Prus, and Sandy (1993) compared married women, with and without children, to never married women, and found that married women with children had the lowest average earnings, spent the most time out of the labor force, and had the least amount of education. Kilbourne, England, and Beron (1994) add, "Gender inequality is ... caused by sex differences in years of employment experiences, resulting from the assignment of child rearing to women" (p.1171). This explanation, however, does not explain all of the disparity between men and women in their ability to obtain and convert human capital, as this difference often persists even after these kinds of variables have been controlled for statistically.

Women are also, for the most part, segregated into certain occupations. This is, of course, tied to the cultural definition of women's roles. Abrahamson and Sigelman

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(1987) found that within Metropolitan Statistical Areas (MSAs), increased sex segregation of occupations was positively associated with the percentage of families with children, lower percentages of women in the labor force, and lower educational attainment of women. Women tend to hold jobs disproportionately in "nurturing" occupations (e.g., nursing, social work, and teaching) and in occupations in which most of the workers are women (Firestone 1992; Andersen 1993; Kilbourne, England, and Beron 1994).

Even though many of these jobs require the same education and cognitive abilities as those that men occupy, women remain at a disadvantage (Kilbourne, England, and Beron 1994). Andersen (1993) reports that women employed year round in full-time jobs in 1990 earned, on average, more than $8,500 less than men who worked year round and full time. Furthermore, occupations that contain higher percentages of women are those that are most penalized both economically and socially (Andersen 1993; Kilbourne, England, and Beron 1994).

Given this situation, one can envision how the military could serve as a bridge to higher socioeconomic status attainment for women veterans. Recalling the three ways in which the bridging hypothesis operates: training and education, immersion and development of independence, and provision of bureaucratic experience, I will apply this hypothesis to women. Training and education received either through the military directly or through the use of veterans' benefits, is likely to increase the human capital of women. Women veterans are able to apply their training to their civilian job about fifty percent of the time (Mangum and Ball 1987; Mangum and Ball 1989). This is greater than male veterans' transfer rate and only slightly less than that of their civilian

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counterparts. More importantly, many women receive training in traditionally male jobs that may translate into increased earnings in the civilian sector (Warner 1985; Cohen, Warner, and Segal 1995). However, Firestone (1992) finds that, although women are found in a greater variety of jobs within the military relative to the civilian labor force, there still exists sexual occupational segregation.

In addition to providing educational and training benefits, the military may increase women's potential socioeconomic status by immersing them in and socializing them to a dominant male environment. Here they may develop characteristics such as, "independence, self-confidence, leadership and a masculine orientation" that employers in male dominated occupations may desire (Warner 1995, p.54). In addition, they may become "less inhibited to apply for jobs in the male dominated secotrs[sic] of the civilian labor market" (Warner 1985, p.53). As with minorities, if independence develops, it may also provide the motivation to move to a different area for the benefit of one's career (Browning, Lopreato, and Poston 1973).

There has, however, been evidence raised against the idea that women in the military are socialized to acquire more traditionally masculine traits. DeFleur and Warner (1987) conducted a study of male and female graduates and nongraduates from the U.S. Air Force Academy. They found that female graduates did not perceive themselves as becoming more masculine or even more androgynous in their gender-role classifications from the time they entered until they graduated. In fact, there was a general trend towards heightened self-perception of femininity among female graduates. It must be noted, though, that self reports do not always correlate with observable traits. In addition, these self reports were made relative to the hypermasculine culture of their

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male peers, which may minimize the females' perception of the masculine socialization that did occur within themselves.

Lastly, the bridging environment hypothesis would predict that women would gain experience in functioning within large bureaucratic organizations. If women, in general, were to be lacking in this experience, veterans would gain a potential advantage over their civilian counterparts. This advantage may be particularly beneficial due to the masculine nature of the military bureaucracy for reasons noted above. Furthermore, to the extent that women seek employment in the public sector, they should receive even greater premiums.

Familial Considerations

The military, theoretically, may benefit women more indirectly than predicted by the bridging environment hypothesis. One method of indirect influence may occur through familial variables such as marital status and fertility. In as much as serving in the military influences a woman's propensity to marry or have children, there is a potential indirect effect on that woman's post-service socioeconomic status attainment. I have already recounted evidence that would predict the ways in which marital status and fertility may influence socioeconomic status attainment (earnings), but the link between marital status, fertility, and the military needs to be drawn.

One such link is provided by Segal (1986) in her characterization of both the military and the family as greedy institutions. Coser (1986, p.4, 6) describes greedy institutions as those that:

> ... make total claims on their members and which attempt to encompass within their circle the whole personality. ... they seek exclusive and undivided loyalty and they attempt to reduce the claims of competing roles and status positions on

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> those they wish to encompass within their boundaries. ... they exercise pressures on component individuals to weaken their ties, or not to form any ties, with other institutions or persons that might make claims that conflict with their own demands (quoted in Segal 1986, p.11).

Segal argues that both the institution of the family and the military institution exhibit these characteristics. Individuals on active duty are frequently forced to make sacrifices within one of these institutions due to the demands of the other. The military is intrinsically greedy due to the set of demands it places on its members (e.g., risk of death, geographic mobility, and geographic separations from family members) (Segal 1986). The family can also be greedy, especially of women to whom many of the domestic responsibilities fall (Segal 1986).

The greed which the military exerts on, and the commitment which it extracts from, women are often in direct competition with family demands (Segal 1986). Therefore, women on active duty may try to limit either the military or familial demands placed on them. While they are likely to have little control over the military demands, they can actively control the extent to which they are burdened by their culturally defined duties within the institution of the family. Hence, women on active duty may choose not to marry or to limit the number of children that they have, thereby limiting the greed of the family. Because of the way in which men's and women's roles are culturally defined, men are less likely to experience as much familial greed.

There is some evidence to support this hypothesis. Segal (1986, p.26) reports that "Military women are less likely than military men to be married and to have children." According to the results of a 1985 Department of Defense survey, 60% of enlisted males were married while only 53% of enlisted women were married (LaVange

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et al. 1986). Overall, 81% of male officers and only 49% of female officers were married (LaVange et al. 1986). In addition, about 47% of enlisted men and 65% of male officers had dependent children, while only 35% of enlisted women and 26% of female officers had dependent children (LaVange et al. 1986).

Analysis of more recent data provides comparable results. Fiscal year 1992 data from the Defense Manpower Data Center (DMDC) indicate that while 56% of enlisted males aged 18-44 were married, only 46% of enlisted women in the same age group were married [OASD(P&R) 1993]. While enlisted women aged 22 or under were slightly more likely to be married than their male counterparts, the marriage rate of enlisted men exceeds that of enlisted women starting at age 23 [OASD(P&R) 1993]. In fact, if only the enlisted personnel over the age of thirty are examined, we find that 81% of enlisted men are married, while only 62% of enlisted women are a partner in matrimony [OASD(P&R) 1993]. Since some of these marriages may not be first marriages and those who are divorced would be counted in the 'not married' category, it may be more accurate to look at the percentage of individuals who are single, never married. Schumm et al. (1996) cite Sample Survey of Military Personnel (SSMP) data from 1991 and 1994 that indicate that, in both years, enlisted women and women officers were more likely to have never been married than their male counterparts.

The tendency of women in the military to have fewer children and to marry less frequently is also relevant in comparison to the entire population. The U.S. Bureau of the Census (1994) reports that, in 1990, 58.4% of women between the ages of 15 and 44 have had a child. If those women aged 15 to 19 are eliminated from the sample (to provide a better sample match for women in the military), we find that over 74% of

women have had a child (U.S. Bureau of the Census 1994, Tables 3-1 and F1). In comparison to the 26% of female officers and 35% of enlisted women who have dependent children, the difference, using either statistic, is remarkable. While having a child in the civilian sector and having a dependent child in the military are not exactly equivalent, there is some basis for comparison. Additional support comes from data from the Defense Enrollment Eligibility Reporting System (DEERS) which indicates that the birthrate (i.e., the percentage of women who gave birth to their first child) of first-term enlisted women in FY1991 was only 1/6th that of civilian wives of first-term enlisted men [OASD(P&R) 1993].

In terms of comparing the marital status of military and non-military personnel, Schumm et al. (1996, p.780), in a summary of research concerning marriage trends in the U.S. Army, report that "past the age of 25, slightly fewer female soldiers have ever married than their civilian counterparts." Comparing FY1992 DMDC data with data from the September 1992 Current Population Survey (CPS) File, we find that only 46% of enlisted women aged 18-44 are married, while the percentage of their 18-44 year old civilian counterparts who are currently married is 58% [OASD(P&R) 1993]. This statistic, however, ignores the fact that some of those who are not currently married may have been married at one time.

Since women in the military are less likely to be married, marry less frequently (in particular, those over the age of 25), and remain childless more frequently than similar non-veterans, one would predict that, on average, women veterans would gain a socioeconomic advantage indirectly via the competition between military service and familial demands that they had experienced while on active duty. It is important to note

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that the greed of the military relative to familial demands is not just a perception. For some time, it was law. The military has employed various policies over the years that have limited the participation of married or pregnant women, often calling for their immediate discharge upon the occurrence of either [Stiehm 1989; OASD(P&R) 1993].

Furthermore, many women voluntarily leave the service upon becoming a parent or entering into marriage (Schumm et al. 1996) or in order to do so. These veterans, however, are still likely to have postponed a few of their familial demands. That is, they will have "used up" some of their limited number of childbearing years during their military service and may have a lower completed fertility, thus gaining some socioeconomic advantage. However, having a young child while trying to transition back into the civilian labor force may be especially costly for these women veterans. Therefore, the advantage of lowered fertility may not be felt for some years.

One other familial pattern that may be of some importance in its influence on the post-service socioeconomic status achievement of female veterans is the tendency of women in the military to marry military men. In fact, approximately one-third of female enlisted and officer personnel are married to another service member (LaVange et al. 1986). Looking at just the married service members, about 64% of married active duty women are married to a military spouse (LaVange et al. 1986). To the extent that these women leave the service to become the civilian wives of their military husbands, they are likely to suffer some negative consequences in the civilian labor market. More specifically, the demands which the military places on the military family, such as frequent relocation, have been linked to higher rates of unemployment and significant wage penalties for wives of military members [OASD(P&R) 1993; Gill, Haurin, and

Phillips 1994]. For example, Gill, Haurin, and Phillips (1994, p.341) report that each military relocation "permanently reduces a woman's wage by 2.8 percent." The family income of these women may also be affected to the extent that their active duty or veteran husbands differ from their non-serving counterparts in terms of earnings or wages.

Not only do women who move with their military husbands lose job tenure because of frequent moves, they must compete in labor markets that have some unique characteristics. For example, women veterans who have married military men are likely to live within labor markets in which there is a higher percentage of military workers in the labor force. While there is little research devoted to the study of such labor markets, Cotter et al. (1997), in a study examining the impact of the demand for female labor across metropolitan areas, control for the proportion of military workers within each metropolitan area. They found that greater proportions of military workers within a metropolitan area were significantly associated with increased occupational segregation of men and women, decreased earnings equality between men and women, and decreased labor force participation for women relative to that of men, both overall and in terms of full-time year-round workers.

There are several other factors that may work specifically to the disadvantage of women who are spouses of military men. First of all, these women are somewhat of a captive labor market. That is, because their military spouses must live and work at a specific duty location, they (the civilian wives) are likely to be constrained to seek work within a given labor market area. Thus, they are unable to move easily in order to seek better or higher paying jobs. Secondly, the labor force in which they work is likely to be

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rather transient. Employers may not want or have to invest heavily (in terms of promotion, training, etc.) in a labor force of military spouses that is likely to completely turn over in three or four years. Lastly, the civilian spouses of military members are likely to be competing with a multitude of other individuals, who have traveled with their military member, for the jobs available within a given labor market. For every thousand military members within a labor market, there are likely to be over six hundred spouses who are potential competitors (AFIS 1996). In sum, the combination of these conditions is likely to create an employers' market in which women who are spouses of military men are disadvantaged.

Veteran Status as a Screening Device

DeTray (1982) offers a different perspective as to how military service may operate with regard to post-service socioeconomic status attainment. He has suggested that, although service may result in some gain in human capital, an individual's veteran status may be more useful to potential employers than to the veteran him/herself. Employers may use an individual's veteran status as a type of screening device (DeTray 1982). Veterans of the U.S. Armed Forces are known by potential employers, via this status, to have passed through a rigorous set of mental and physical requirements (DeTray 1982; Xie 1992). In addition, they have shown that they have the capability of being productive workers, as nonproductivity is not tolerated in the military and high standards must be met (Little and Fredland 1979; DeTray 1982). An honorable discharge from the military, thus, can be viewed as a certification of an individual's health and productivity (DeTray 1982).

Thus, just knowing that an individual is a veteran provides an employer with some reason to hire a veteran over a non-veteran or at least at a higher rate or into a more prestigious job than a non-veteran. Therefore, any socioeconomic gains made by veterans may be a function of preferential hiring based on this credential in addition to a gain in human capital. DeTray (1982) goes on to explain that the value of veteran status as a screen fluctuates with the percentage of veterans within a given subgroup. DeTray (1982) explains:

> Therefore, in populations in which only a small portion of men are veterans, the screening value of veteran status is low because the non-veteran population will contain a substantial number of men who could qualify as veterans if they chose to do so (p.134).

Since there is a large group of people in the population who could pass the same health and productivity standards as those who elect to join the service, veterans are unlikely to gain much advantage. On the other hand, the opposite may hold true for populations containing a large percentage of veterans. This is an important alternative explanation in any study claiming to have demonstrated the efficacy of the bridging environment hypothesis.

Selection Bias

The general method of choice for all studies which I have reviewed for evaluating the effect of military service on post-service socioeconomic status attainment is to take a sample of individuals, divide them by veteran status, control for significant variables known to be associated with status attainment, and compare the two groups. Any differences in socioeconomic status between the two groups may then be attributed to veteran status. While this is a great oversimplification of the methodology involved in

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conducting such analysis, it does demonstrate a potential problem with drawing such conclusions: the temptation to attribute automatically any differences between the groups to the effects of military service.

There is a simpler explanation for the differences found between veterans and non-veterans. It is known as selection bias (Cohen, Segal, and Temme 1992). Any veterans' advantage can be explained by suggesting that those individuals who entered the military, passing all of its physical and mental requirements, are the same individuals who, if they had remained civilians, would have performed well in the civilian labor force because of preexisting characteristics. Thus the military simply selected better individuals to recruit or draft. Veterans' disadvantages in the civilian labor market may be due to the possibility that "the military overselected those whose characteristics hindered occupational success" (Cohen, Segal, and Temme 1992, 405).

There is evidence to support the existence of selection bias in military enlistment. Studying enlistees from the AVF period, Teachman, Call, and Segal (1993) found that the military did tend to select personnel of differing characteristics than those who did not enlist. The results, though, differed by race. Black men who enlist in the military tend to be those with more favorable characteristics (i.e., related to positive labor market outcomes) than blacks who do not enlist (Teachman, Call, and Segal 1993). White men who enlist, however, tend to be those with "less privileged backgrounds and qualifications" (Teachman, Call, and Segal 1993, p.287) in comparison with white men who do not enlist. The pattern for whites, though, may be moving in the direction of increased selectivity (Teachman, Call, and Segal 1993).

In terms of the interpretation of results from any analysis comparing veterans and non-veterans, one must be cautious in assigning causality to the military environment. As the bridging hypothesis would predict that black veterans would gain more than white veterans from military service, the same results could be achieved in the AVF era through selection bias alone. In order to control for selection bias, researchers must be sure to include adequate control variables in their statistical analysis (Cohen, Warner, and Segal 1995).

REVIEW OF PREVIOUS RESEARCH

While it is beyond the scope of this paper to recount all of the extant literature related to veteran socioeconomic status attainment, I will describe the sociologically relevant research that has been accomplished since the early 1970s. Since so little has been written concerning women veterans, I will first review research on the impact that military status has on the socioeconomic status attainment of men. While there is likely to be little disagreement that the experience of male veterans differs both qualitatively and quantitatively from female veterans, this literature does provide a foundation for the examination of women veterans.

Prior Studies: Male Veterans

As stated earlier, most of the studies on the socioeconomic status attainment of veterans have included only male veterans in their sample. While the results of studies of male veterans are not necessarily generalizable to female veterans, they do provide a foundation for this study and may provide some insight into how we expect the bridging environment hypothesis to operate with regard to women who have served in the military. I will, thus, highlight several scholarly works that have contributed to the study of the post-service status attainment of male veterans. As these studies vary widely, as well as overlap, in their methodology, data, and results, it is difficult to group them into distinct, logical categories. For this reason, I will address each study that I reviewed in chronological order.

In 1973, Browning, Lopreato, and Poston first suggested that the military may serve as a bridging environment for minorities. They used the 1960 Public Use Sample

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from the U.S. Bureau of the Census (a 1% sample) to compare the veteran and non-veteran earnings of blacks, Mexican-Americans, and Anglos. Their sample was limited to those veterans residing in the South West, as this is the only place where information was collected on Mexican-Americans, between the ages of twenty-five and fifty, working full time in non-farm employment who had at least a fifth grade education. Controlling for occupation and education, they found that, in general, minority veterans earn more than their non-veteran counterparts, while the veteran status of Anglos produced somewhat of an earnings penalty. For both minorities and Anglos, military service had the most negative effects on those occupations requiring a greater degree of career continuity or seniority.

This study, however, is deficient in several respects. First of all, the 1960 Census determined Mexican-American ethnicity, not by respondent self-reporting, but by an analysis of surnames to determine which ones were of Spanish origin (Browning, Lopreato, and Poston 1973). Such an arbitrary distinction made on the basis of name alone calls into question the validity of this ethnic grouping. Furthermore, Browning, Lopreato, and Poston do not control for age or distinguish between enlistees and conscripts (Cutright 1974) or between period-of-service cohorts, which have been shown to impact earnings (Villemez and Kasarda 1976; Martindale and Poston 1979). In addition, although they conclude that those occupations which require a greater degree of continuity are most negatively impacted by military service, they do not control for the number of years which the individual served, which can be considered a measure of the degree to which career continuity may have been interrupted (Goldberg and Warner 1986; Cohen, Segal, and Temme 1986). Not only do the authors not have a measure of

how long an individual's career was interrupted, they do not know how long an individual had been at his or her job prior to military service. As interruptions to a career may be more critical at some times than others, this information is necessary before one can draw such conclusions. (For a more detailed critique, see Cutright, 1974.)

Cutright (1974) compared the civilian earnings of veteran draftees and non-veteran potential draftees who had either received some type of deferment (e.g., student, occupation, dependency), been medically or psychiatrically disqualified, or failed the AFQT using a database that matched Selective Service records to Social Security earnings information. Black and white men born between 1927 and 1934 (serving in the early 1950s) who earned income within the United States, had taken the Armed Forces Qualifying Test (AFQT), and had not been previously deemed ineligible for service (e.g., criminals and aliens) were included in the sample (5221 whites and 1722 blacks). Cutright controlled for region of residence, age, years of education prior to registration in Selective Service, and AFQT score. He found that white veterans suffered an earnings penalty as a result of lost time in the civilian labor market. Black veterans, overall, achieved no clear cut advantage or disadvantage as a result of military service. While controlling for several factors for which previous studies have been criticized for omitting, Cutright limits his sample so much that the findings cannot be generalized to other age groups or birth cohorts or to volunteer soldiers.

Using data from the 1970 Census, Villemez and Kasarda (1976) drew a sample of 54,235 men aged 18-64, about 47% of whom were veterans. Their method of sampling, however, is not described, and given the large proportion of veterans in the sample, this seems especially relevant. Their sample also includes eighteen and nineteen

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year-olds, who are unlikely to have completed military service and, if not in the service, are unlikely to be well established in the civilian labor market. These researchers control for age, race, and period-of-service cohort in examining the difference between veteran and non-veteran earnings. They find that, overall, whites and blacks gain an income advantage via military service. However, while World War II and Korean War veterans fare better than their non-veteran counterparts, Vietnam-era veterans fare worse.

This may, however, be a relic of the age of Vietnam veterans at the time of the study, who are significantly younger than the other war cohorts and may not have had enough time to make the transition completely into the civilian labor force or to capitalize on their veteran benefits. They also find, though, that Vietnam-era veterans are disadvantaged relative to their non-veteran counterparts in terms of education, especially in the percentage who have completed four years of college. By analyzing the ratio of veteran to non-veteran income by age, race, and education, they concluded that the influence of veteran status on income operates indirectly through education. That is, an increase in education as a result of military service (including G.I. Bill, etc.) gave World War II and Korean-era veterans an advantage over their civilian counterparts in the labor market, while a relative deficiency in education gave Vietnam-era veterans a disadvantage.

Lopreato and Poston (1977) also used 1970 Census data in their study. Their sample, however, differs from the one used by Villemez and Kasarda (1976), in that it was limited to men between the ages of twenty-five and fifty-four, who had completed at least nine years of schooling and were working full time. This study primarily concentrated on the difference between black veterans and non-veterans. They

determined, controlling for age, region, and education, that black veterans are better able to convert their educational attainment into income and that black veterans enjoy an earnings advantage over black non-veterans. This study did not, however, control for period-of-service cohort.

Little and Fredland (1979) concentrated their study on veterans of the World War II era. Using the National Longitudinal Survey (NLS), they drew a sample of men aged from forty-five to fifty-nine in 1966. Controlling for educational attainment, region of residence, age, and job tenure, Little and Fredland compared different income measures (wages/salary and farm/business) of veterans and non-veterans disaggregated by race, occupation, and industry. They found that regardless of color, veterans enjoy a premium over non-veterans across both measures of income. In addition, military service was found to be significant in industries including personal service and professional service for whites, and agriculture, professional service, and public administration for blacks. In terms of occupations, veteran status was significant for clerical occupations for whites and professional/technical and operative jobs for blacks.

Martindale and Poston (1979) focus their study on the comparison of the earnings of minority (black and Mexican-American) veterans and non-veterans over three period-of-service cohorts: World War II, Korea, and Vietnam. They use 1970 Census data and limit their sample by including only men between the ages of twenty-five and fifty-four who were at work with a job the week prior to the Census, had worked at least fifteen hours that week, received earnings in 1969, and had worked at least fourteen weeks that year. In addition, as with the 1960 Census, information on Mexican Americans was gathered only within the South West and was based on an analysis of

Spanish surnames. These researchers thus limited their sample to those men residing in this region. In their regression equations, Martindale and Poston controlled for educational attainment, number of weeks worked, and marital status. They found that, like the research of Villemez and Kasarda (1976), white veterans of World War II and Korea earned more than their non-veteran counterparts, while white Vietnam veterans were at somewhat of a disadvantage. However, they also found that the negative Vietnam-effect did not operate on black and Mexican Americans, who continued to enjoy an income advantage. Black and Mexican American veterans were better able to convert their education and marital status into income than like non-veterans.

In 1979, Poston, using a slightly different methodology, but the same data and variables as Martindale and Poston (1979), achieved similar results (although period of service was not considered). When the data were disaggregated by education, age, full-time/part-time employment status, and class of worker, and the regression coefficients of veterans and non-veterans were compared, black and Mexican American veterans had a substantial advantage over matched non-veterans, while Anglo veterans were at a relative disadvantage when compared to like non-veterans.

Dennis DeTray (1982), as explained above, took a slightly different approach to comparing veterans and non-veterans. Instead of viewing the military as a bridging environment, veteran status is viewed as a screen by which employers identify those potential employees who have shown themselves to be productive in the past (in the military) and are, thus, likely to be productive in the civilian labor market (DeTray 1982). His results, however, are not unlike those achieved by those using the bridging environment hypothesis. DeTray uses the 1960 and 1970 Public Use Samples from the

U.S. Census as his data set. He limits the data by drawing a sample of white and black civilians between the ages of twenty-two and sixty-five whose records have data to calculate an hourly wage. Education, age, veteran status, residence in a metropolitan area, residence in a central city, and residence in the South are included as independent variables in his income equation. He finds that both white and black veterans earn a premium over their non-veteran counterparts, except in the younger age groups. The gains veterans receive are most significant for blacks and those with less than twelve years of education. Results were not disaggregated by period of service.

Berger and Hirsch (1983) focus on the post-service earnings of Vietnam veterans. Their sample is extracted from the March CPS and consists of males born between 1942 and 1952, thus, serving in the Vietnam era, who worked in the previous year (1977), had wage or salary earnings during that year, were not enrolled in school as their major activity, and who did not work only part of the previous year because of school attendance. Included in their wage equation are age, age-squared, birth cohort, sample year, and control variables for the four Census regions, residence in a metropolitan area, marital status, race, national unemployment rate in the survey year, industry, and education. Berger and Hirsh found only minimal differences between the earnings of veterans and non-veterans from the Vietnam era. According to the authors, "Only those with less than a high school education consistently realized veteran premiums" (p.4).

In 1985, Fredland and Little use the exact same data that they used in 1979 to test the bridging hypothesis again (i.e., NLS, 45-59 year old World War II veterans). This time they use two measures of socioeconomic status: earnings and the Duncan

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Socioeconomic Index of the respondent's job. Included in their equations are age, education, whether health affects kind or amount of work, veteran status, job tenure, whether civilian training is utilized in current job, whether military training is used on current job, and the Duncan Index of respondent's first job after school and of father's job when respondent was fifteen. In addition, labor market variables such as current job in a standard metropolitan statistical area, residence in the South, and employment in the government are included. Fredland and Little also utilize certain variables they claim are related more closely to the bridging environment such as attitude towards work, a migration variable, a measure of perceived internal control (independence), as well as several interaction terms.

Contrary to what most other studies conclude, black veterans were found to have gained less than white veterans over comparable non-veterans. They conclude that what is likely to be driving any veteran premiums is education, training, and independence for white veterans and education and independence for blacks. They also suggest that two non-bridging variables, health and government employment, are also significant contributors to veteran premiums. However, I would question their classification as non-bridging variables. While one cannot argue that the military plays a critical role in screening out some individuals whose health problems would inhibit them in the civilian labor market, the increased health of veterans may be due to the education and training that the veterans received on personal hygiene and physical fitness within the military. Thus, good health may actually result from human capital gains achieved through service. Although it cannot be denied that veteran hiring preferences of both Federal and state governments contribute to the importance of government employment in

calculating a veteran's socioeconomic status, the skills and training acquired by veterans in the service may be more transferable to government positions, including the experience of working within large, bureaucratic organizations.

Goldberg and Warner (1986) analyze a cohort of military personnel who separated from the service in FY 1971 (during the Vietnam era) by matching service data with Social Security records and follow them from 1972 to 1977. All personnel with no income were deleted from the data set. Using income as their dependent variable, Goldberg and Warner focused on the effects of military experience (length of service) and civilian experience. They controlled for percent white (although they did not specify if this was calculated for the labor market, occupation, etc.), education, retirement annuity, branch of service, and military occupation. They found that military experience in each of the military occupational groups they analyzed increased civilian earnings, but not to the same extent civilian training does in each of these groups. Medical, electrical/mechanical equipment repair, other technical, and electronics equipment repair are approximately equal in terms of the impact military and civilian experience has on income. Other occupational categories, however, gave the edge to civilian experience. The primary critique of this study is that it fails to control for or disaggregate its data by race. As Browning, Lopreato, and Poston (1973) suggest, the experiences of white and minority veterans are likely to be qualitatively different and aggregate data, in terms of race or ethnicity, will mask any differential functioning and possibly underestimate the premiums minorities may gain from military service.

Cohen, Segal, and Temme (1986) utilize education as a measure of socioeconomic status. Their data consist of a sample of students from nine Midwestern

high schools that were surveyed in 1957-1958 with a follow-up that occurred 15 years later. As the authors acknowledge, this is a highly unrepresentative sample "of virtually all white youths in America's heartland" (p.305). This study focused primarily on the impact on educational attainment of military service, length of military service, period of service (either pre-Vietnam or Vietnam), and whether or not the veteran had served as an enlisted man or an officer. Variables controlled were: IQ, high school grade point average, father's occupation, college plans in high school, best friend's college plans, occupational aspirations, parent's educational encouragement, military plans while in high school, parent's military encouragement, level of education upon entry into the military, parent's income, parent's education, and respondent's education at age nineteen. The most significant finding of this study was that, for individuals in this sample, the military had an overall negative effect on educational attainment, despite its touted educational benefits. In addition, the negative impact was felt mostly by enlisted personnel. There were no differences in the results for those veterans who served just prior to the Vietnam era and those who served during the Vietnam era.

Using a unique data set created by matching Social Security records with Vietnam-era draft lottery numbers, Angrist (1990) compared the estimated lifetime earnings of draft-eligible veterans and non-veterans, controlling for race and age. He concluded that white veterans lose approximately $3500 annually (in 1990 dollars), or about 15% of their income, relative to matched non-veterans. No statistically significant effects of veteran status were detected for minority veterans.

In 1992, Cohen, Segal, and Temme followed up their 1986 study to determine what impact the educational losses experienced by Vietnam-era veterans had on

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occupational attainment. They used the same data set and similar independent variables. The dependent variable, however, was the respondent's occupation's score on Temme's Socioeconomic Index, a measure of job prestige. They found that veteran status was associated with lower occupational prestige, but that this effect was mediated by veterans' lower levels of educational attainment.

This study, however, does not disaggregate data by educational level (i.e., less than high school, some college, college degree, etc.). According to the bridging hypothesis, those with the least human capital (i.e., lowest education in this case) will benefit more from military service. If results were broken down in this manner, we might find that the lowest education groups may have actually received some type of occupational advantage. Cohen, Segal, and Temme (1992) also do not control for those who used veterans benefits and those who did not, which may provide a different picture of how veteran status operates through educational attainment.

This criticism is supported by a 1993 study by Angrist who looked at the effects of veterans benefits on education and earnings. He used data from the 1987 Survey of Veterans conducted by the U.S Census Bureau. This sample includes almost 9,500 veterans. However, Angrist restricted the sample further by eliminating women, any veteran not aged thirty to fifty-four in 1987, and anyone who had served less than one or greater than twenty years. This effectively limited the sample to male Vietnam-era veterans and veterans of the early all-volunteer force. Also excluded was anyone who entered the military with less than nine years of education. Use of veteran benefits was the primary independent variable, while age, length of service, race, era of service, service as an officer or enlistee, and marital status were controlled. Angrist concluded

that those veterans who used their educational benefits increased their education in their post-service life by an average of 1.4 years, which translates into a 6% annual earnings premium. Those who gained the most from their benefits were those who used their benefits to attend college or graduate school.

Phillips et al.(1992) is the only study that I found that focuses on the socioeconomic consequences, in terms of earnings, of military service both while the soldier is on active duty and after leaving the service. This study uses NLS Youth Cohort data for its analysis (1978-1983). Individuals were included in the sample for a given year if they were not enrolled in school during the year and earned at least $1000 dollars in wages and salary earnings, were at least 19 years old, and were not missing information on any key variables. All veterans in this sample had served during the AVF period. They controlled for time since high school, time since end of enlistment, time since completion of college, AFQT score, education, health status, the amount of reading material available in the home, the presence of an adult male in the home when growing up, motivation, participation in educational benefits, years between end of enlistment and participation in educational benefits, and residence in the south, a central city, or a suburb.

These researchers found that all racial groups (non-Hispanic whites, blacks, and Hispanics) earned significantly more while in the service than matched non-serving individuals. The benefit was the greatest for Hispanics and blacks. Once leaving the military, non-Hispanic white earnings drop significantly relative to their civilian counterparts but overtake them in about two years. Black and Hispanic veterans income

also takes a drop, but only down to about the level of their non-veteran counterparts, where it remains.

Lastly, Xie (1992), used both education and earnings to measure the socioeconomic status of young male veterans. The data set used for this study is the 1964-1984 March CPS. Included are males aged eighteen to thirty-five with definable wages who had complete information on all variables examined. Xie further reduced the data by grouping them into tabular form using categories for age, race, birth cohort, education, school enrollment, veteran status, and number of hours worked last week. This grouping resulted in the formation of 15,222 cells for each of which he calculated an average wage and an average number of years of school completed. The primary finding of this study was that initially, after separation from the service, veterans were disadvantaged in terms of educational attainment and did not catch their non-veteran counterparts until around age 28. In terms of earnings, a similar pattern emerges. Minority veterans were found to enjoy a greater premium over like non-veterans. Results were not disaggregated by period of service.

Prior Studies: Female Veterans

Unlike the amount of literature that has been written concerning male veterans, few studies have been completed utilizing women veterans. I have included in this section any studies that have focused primarily on women or that have used both men and women in their analyses.

Poston, Segal, and Butler (1984) appear to have written the first analysis of the socioeconomic status attainment of female veterans. They drew a 10% subsample from the 5% 1980 Public Use Microdata Sample from the U.S. Census of Population and

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Housing. The subsample was further limited by including only those individuals between the ages of twenty-five and fifty-four, who worked in the week prior to completing the survey, had positive earnings in 1979, worked at least fourteen weeks in 1979, and averaged at least 15 hours of work per week. Weekly earnings was the dependent variable. The independent variables of primary interest, besides gender, were veteran status and race. Controls were set up for age, weeks worked, hours worked, education, and fertility (only for females).

White female veterans were found to be 1.7 times more likely to be earning greater than $300 per week than their non-veteran counterparts. Nonwhite female veterans were 1.4 times as likely to be in this income category than like non-veterans. The similarity in findings for white and nonwhite female veterans is likely to be a result of the fact that women selected for military service, both white and nonwhite, usually come from similar (lower to lower-middle class) socioeconomic backgrounds (Poston, Segal, and Butler 1984). For comparison purposes, they calculated the same statistics for men and found that white male veterans were 1.3 times as likely as their matched non-veterans to earn more than $300 per week and nonwhite veterans were 1.5 times as likely as nonwhite non-veterans to be in this category. When comparing races across periods of service, white female veterans were more likely than nonwhite female veterans to earn more than $300 per week in all eras except the Korean War.

While this study is certainly groundbreaking, its unique methodology (relevant to other bridging hypothesis studies) makes it more difficult to compare to other studies of both men and women. In addition, the regression coefficients for the fertility control were not shown. This is one variable that is likely to be significant in determining the

earnings of female veterans. Lastly, marital status was not included as an independent variable.

Warner (1985) used NLSY (1979-1982 waves) data to explore the relationship between veteran status and the early socioeconomic status attainment of female veterans. These veterans had an average age of about twenty years with a standard deviation of about one year. Thus, all veterans served during the AVF period. The two dependent variables used in this research were hourly earnings and the percentage of males in the occupational group of the woman's first job. Included in the model were variables for the respondent's parents' educational and occupational attainment, formal schooling, military service, current job prestige, hours worked, future expectations of job prestige, economic sector, degree of sex segregation in first job, whether or not the job falls under collective bargaining, marital status, childbearing status, fertility expectations, and family attitudes.

When looking at earnings, Warner concluded that there was no significant relationship between veteran status and early career earnings for men or women (white or minority). This held even if occupations that require a great deal of career continuity were separated out. Warner hypothesized that women veterans would be more likely to take a more male dominated job then their non-veteran counterparts. The data, again, though, produced no significant results. She did note, however, that within the earnings equations, the sex-type of the occupation was significantly related to earnings (the higher the percentage male, the higher the earnings).

Given the age of the subjects in this study, and the results of previous studies on males, one would predict that the effects of veteran status in the early career would be

relatively inconclusive or negative (Phillips 1992; Xie 1992). These women would still be adjusting to the civilian labor market in this time frame, may not have had time to use their veterans benefits, etc. In addition, although length of service was not used in this study, eighteen year old veterans are likely to have left the service prior to the completion of their contracts, which may skew the results. With these confounds and a small sample size, it would have been surprising if Warner were to have achieved significant results.

DeFleur and Warner (1985) use the same NLSY data set that Warner (1985) did. In this study they present a comparison of annual earnings of male and female AVF-era veterans (one year after discharge) and non-veterans (one year after completion of school). They conclude that with the exception of men with some college, white and nonwhite, male and female veterans earned more than their non-veteran counterparts. Again, this data set is plagued by small sample size. For example, there are only 132 white male veterans, 64 nonwhite male veterans, 47 white female veterans, and 21 nonwhite female veterans.

In 1989, Mangum and Ball conducted a study on AVF-era veterans' ability to transfer their military skills to the civilian labor market and what impact this had on post-service earnings. The use of military training is a critical component of the bridging environment hypothesis (Browning, Lopreato, and Poston 1973). These researchers constructed a sample from NLSY data by including only those who, in 1979, were not enrolled in formal education and whose last enrollment was between 1 July 1975 and 31 December 1979. The military members had to have served on active duty sometime in the 1975-1979 period. They found that 49.8% of women veterans were able to transfer

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their skill to the civilian labor market, compared to the 57.8% transfer rate for those who had received civilian training. The numbers for men were 45.8% for veterans and 56.3% for civilians. If the effect of employer-specific training is controlled for, the veteran and non-veteran rates are about equal.

Controlling for AFQT score, education, labor market experience, minority status, marital status, residence in the South, residence in an SMSA, collective bargaining status of occupation, health limitations, veteran status, whether or not enlistment was complete or incomplete, job tenure, number of weeks on active duty, and participation in post-school training, they found that, for the women, the military related variables were all insignificant determinants of wages, while men experienced a premium for the number of weeks they were on active duty. It seems odd, then, that although women veterans transfer their military skills to civilian occupations at a higher rate, they benefit less than men from their service.

Cohen, Warner, and Segal (1995) examined educational attainment of veterans of the AVF. This study used data from the 1979-1985 NLSY. Their primary dependent variable was education and their primary independent variable was veteran status. They controlled for parents' education, father's occupation, occupational aspirations, educational expectations, race, age, and AFQT score. Military service cost female veterans more than three-fourths of a year of school and male veterans about two-thirds of a year. When the sample was divided by race/ethnicity (not by gender), African Americans, overall, lost four-fifths of a year of education. Those who were labeled as "nonblack" lost more than two-thirds of a year of education. In addition, they found that

length of service was negatively correlated with educational attainment for white males and females. However, length of service did not impact blacks significantly.

Mehay and Hirsch (1996) use two data sets to examine the earnings of female veterans. The first data set is the 1986 Reserve Component Survey (RCS), which contains data on both veteran and non-veteran reservists. The fact that all reservists are physically and mentally eligible for active duty and that in some sense, both veteran and non-veteran reservists have self-selected into the military, significantly lowers the possibility of selection bias effects when calculating results. Their sample is limited to enlisted personnel, working in paying civilian jobs, without any missing data. Using earnings as their dependent variable, they controlled for education, potential workforce experience (equation not given), part time status, government employment, occupational category, industry category, marital status, and number of children. Women veterans are found to be at a significant disadvantage to their non-veteran counterparts (a 9% wage penalty). White women veterans experienced a 12% wage penalty, while nonwhite women veterans earned only 2% less. This disadvantage held to some degree for women who served prior to the AVF (Vietnam era) and after its implementation, as well as across education levels.

Mehay and Hirsch (1996) next looked at CPS data from 1989 and 1993. Included in their sample were all female wage and salary workers, who were not primarily students, and who had positive earnings and hours worked. In addition to the variables controlled for using the RCS data, they were able to control for union status, government employment, large CMSA/MSA residence, and region. Here they find an unadjusted 6.5% wage advantage for female veterans over like non-veterans, which is

largely due to the higher average education of the veterans in this sample. Veterans of the Vietnam and AVF eras achieved similar results. Mehay and Hirsch explain that the difference between the results achieved using RCS and CPS data are likely due to the effects of selection bias in the CPS data.

Prokos (1996) uses a 10% subsample of the 2% 1990 PUMS data to examine the difference between female veteran and non-veteran income. Her sample is further restricted by including only women aged twenty-five to fifty-four who worked for an average of at least fifteen hours per week and for at least 14 weeks. Excluded were women on active duty, in the Reserves, or in the Coast Guard. Earnings was the dependent variable and veteran status the independent variable. She controlled for education, hours worked per week, race, age, and percent female of an occupation. Prokos finds that female veterans are at a disadvantage in terms of earnings relative to their non-veteran counterparts. However, it is the younger veterans who are experiencing the disadvantage, while after age 35, women veterans start to realize a premium. Education is more beneficial to non-veterans than veterans, but more advantageous to white veterans than to black veterans. Prokos also found that female veterans were more likely to be in jobs with higher proportions of males than non-veterans, but this accounted for very little of the income difference. Overall, "older women, particularly African Americans, and women with low levels of education benefit[ed] most from military service" (Prokos 1996, p.1).

There are several areas in which this study can be improved. First of all, Prokos does not control for variables which may have a significant impact on women veterans' wages such as number of children or marital status. Also not considered are labor

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market variables such as unemployment or period of service (although age is used as a proxy). In addition, she categorically excludes active duty and Guard and Reserve personnel, who could be used for an interesting comparison.

The final study which I have reviewed is Jackson's 1996 study that compares the hourly wages of AVF-era veterans and non-veterans using NLSY data (1979-1992). Excluded are cases not interviewed in 1992, those who are out of the labor force, those still on active duty, and those who had not earned an hourly wage since their last interview. The primary independent variables used are veteran status, years of service, and number of years since veteran has left the service. Age, sex, race, marital status, number of children, educational attainment, parent's education, occupation, civilian work force experience, and employment status are controlled. Oddly enough, although this study includes women in its sample, nowhere in the text of the paper are results of women veterans compared to women non-veterans. It is noted, however that sex is statistically significant in all regression models.

Overall, this study (Jackson 1996) suggests that there is not much difference between the earnings of young veterans and non-veterans who have relatively equal time in service and civilian labor force experience. In their words, "it is not the kind of work experience one has, but the amount of work experience one accumulates" (Jackson 1996, p.16). There was also some evidence, though, that military experience may be worth slightly less than civilian experience in the civilian labor market.

Summary of Previous Research

TABLE 1 summarizes whether or not veterans were found to have an advantage or disadvantage compared to their non-veteran counterparts (by race/ethnicity and

TABLE 1: Summary of Veteran Advantage/Disadvantage by Race and Gender

	Male Veterans			Female Veterans		
	White	Black	Other	White	Black	Other
Advantage	12	13	9	4	4	3
Disadvantage	11	4	2	3	3	1
No Difference	4	7	6	3	3	3

gender) in the studies that I have reviewed. The number in each of the cells represents

the number of studies that have achieved those results. If a study found disparate results

when the data were disaggregated by cohort, education, etc., a number is added to each

applicable cell. Results of studies that did not disaggregate their results by race/ethnicity

or by minority status are counted in all races (e.g., Goldberg and Warner 1986; Angrist

1993).

When the combined conclusions of the studies I have reviewed are presented in

such a manner, a definite pattern emerges. With respect to white men, the effect of

veteran status can go either way. This suggests that other variables may be more

important than veteran status in determining their socioeconomic status attainment.

Minority male veterans, though, show a definite trend toward achieving a veteran

advantage over like non-veterans. These results are consistent with what we would

expect based on the bridging environment hypothesis. Minorities, who are likely to have

lower earnings potentials, benefit the most from military service. Unlike the data on

male veterans, there have not been enough studies accomplished on female veterans for

us to describe any definite pattern. Although female veterans appear to have a slight

edge over female non-veterans, it may be too early to tell. This study will make a

contribution to the discerning of such a pattern.

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The numbers in TABLE 1, however, may be a bit misleading because of the way in which the data are aggregated (i.e., disregarding cohort, level of education, etc.). If we take a look at cohorts, two major trends emerge. The first is that, in general, World War II veterans tend to do better than veterans of other cohorts, relative to non-veterans of the same age (Villemez and Kasarda 1976; Little and Fredland 1979; Martindale and Poston 1979; Fredland and Little 1985).

Secondly, veterans of the Vietnam Era have tended to receive the least benefit (or incurred the most cost) from military service relative to other cohorts (Villemez and Kasarda 1976; Martindale and Poston 1979; Berger and Hirsch 1983; Cohen, Segal, and Temme 1986; Cohen, Segal, and Temme 1992). These trends may be a result of the difference in popularity between the two wars, the discrimination against Vietnam veterans that may have occurred (Cohen, Segal, and Temme 1992), a decrease in the use of post/in-service educational benefits by Vietnam veterans (Cohen, Segal, and Temme 1992), the decoupling of federal aid for education from military service (Segal 1989), the possibility that individuals selected for service in World War II were of initial higher quality in terms of human capital than Vietnam veterans (Villemez and Kasarda 1976), or the condition of the economy at the time the veterans entered the civilian labor market (Villemez and Kasarda 1976). As data collection on the Vietnam-era veterans occurred relatively close to the time of their discharge, the Vietnam effect may simply be a function of the individual's life cycle and the process of transition into the civilian labor market. Cohen, Warner, and Segal (1995) suggest that the Vietnam disadvantage will continue into the AVF era, although it may be too early to tell with most of the data sets used by researchers to date. This is another area to which this study can contribute.

General Critique of Previous Research

The most obvious critique of the literature I have reviewed is the lack of women's representation in the analyses. As I have already reviewed some possible explanations of this deficiency, I will now address several other areas of concern. These areas will include the measures of socioeconomic status, control variables, and statistical procedures.

In general, sociologists conducting research in this arena have used relatively few measures of socioeconomic status. Occupational prestige, earnings, and educational attainment have been the measures of choice. While these variables provide important information on veterans' socioeconomic status attainment, they do not provide a complete picture. For example, most studies categorically exclude individuals who are unemployed, report no income, or work less than a certain number of hours per week or weeks per year. This does not allow the researchers to measure the degree to which veterans may be employed or unemployed relative to their non-veteran counterparts and it excludes those individuals who may be living near the poverty line. Researchers appear more concerned with the middle and upper echelons of socioeconomic status attainment than with the lower rungs. This study offers a partial corrective to this criticism by including family income as a dependent variable. By using this measure, individuals who do not have any earnings or who are not employed are not automatically excluded from all analysis.

Cohany (1990) reports that labor force participation and unemployment rates are about the same between male, female, and minority Vietnam-era veterans and non-veterans (black veterans did participate at a slightly higher rate), but these data are

grouped only by age and do not match subjects on other variables that have been demonstrated to be important to socioeconomic status attainment. There is also evidence that veterans are overrepresented in the homeless population. Rosenheck, Frisman, and Chung (1994, p.466) report that "The overall proportion of veterans among homeless men (41%) was somewhat higher than that in the general population (34%)." If there is a high concentration of veterans who do not meet the criteria for inclusion in prior studies, these analyses may have greatly overestimated the benefits or underestimated the costs of military service.

There is also a tendency of studies to limit the type of income examined to earnings. While this is an appropriate measure of an individual's labor market achievement, it may leave out a significant amount of non-earnings income which the human capital gained in the military may have helped him or her to earn. One example of this is retirement income, which is likely to be critical, now, to veterans of both World War II and Korea. In addition, an individual's socioeconomic status is often not determined by his or her income alone. It may be more appropriate to measure family income as well. This is especially true of those individuals who are unemployed or out of the labor force. This includes women, who, because they are culturally tied to domestic roles, may have chosen marriage and familial responsibilities over labor force participation. Thus, their earnings will not measure their socioeconomic status.

Some studies can also be criticized for their failure to control for certain variables (although this was likely a function more of the data sets than the methodology). For example, many studies of veterans whose service was prior to the advent of the AVF did not distinguish between enlistees and draftees. This would, intuitively, have some impact

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on the effect that military service would have on an individual. This criticism, however, is not as relevant when studying female veterans, as women have always served as volunteers in the U.S. military. Its relevance to men, as well, is diminished considering that many men who volunteered for service were motivated by the draft.

Most studies also have not considered the full range of military status. That is, there is a tendency for research to focus on comparing veterans to non-veterans, while little mention is made of the military status of the non-veterans. Non-veterans could be currently on active duty or may have served in the National Guard or Reserves.

Some studies have attempted to control the military status of their non-veteran samples better by eliminating active duty personnel from their study. To do so, however, is to eliminate a portion of the sample that is well suited for comparison to veterans in terms of both selection bias and self-selection. A general critique of the results of many of the studies I have reviewed is that any difference between veteran and non-veteran socioeconomic status may be due to the possibility that individuals who decide to enter the military differ significantly on some factor associated with civilian labor market outcomes from those that do not enter the military as a result of either the military's selection process or the self-selection of that individual to join the armed forces. Active duty personnel and, to some extent, those with service in the Guard or Reserve have been selected by the armed forces and (at least during the AVF) have been self-selected as well. Thus, the possible influence of selection bias when comparing veterans to these groups is reduced. In addition, active duty personnel represent the "cost" or "benefit" of a veteran's choice not to remain in the service and may offer an interesting comparison.

Some studies, even those that have concentrated on women veterans, have also inadequately addressed the issues involving women's cultural ties to the family (e.g., Prokos, 1996, did not even include a variable for number of children in her analysis). Marital status and fertility are critical aspects in the determination of a women's availability for work and achievement at work. Not only is the presence of children an important factor, but so is the age of those children. Younger children may require more time, care, and, thus, sacrifice (in terms of socioeconomic status) on the mother's part than older children (e.g., working fewer hours). As I discussed earlier, it may be through these variables that the military has an indirect effect on its female veterans.

A third area that has not been adequately controlled is local labor market conditions. Many studies, by their failure to include labor market area control variables, have assumed that veterans operate within a national labor market, or at the least regional (for those studies that have controlled for residence in the South). While this may be valid according to the assumption of the bridging environment hypothesis that the mobility of veterans is less limited than that of non-veterans, local conditions are likely to exert strong influences on the socioeconomic status attainment of veterans.

Lastly, some studies have coded variables in ways that are inappropriate for regression analysis. For example, two studies (Poston 1979; Martindale and Poston 1979), instead of using a series of dummy variables, coded marital status as a four-category nominal-level variable and assumed it to be an interval-level measurement for the purpose of the regression. Not only is this a dubious assumption, but it negates any non-arbitrary interpretation of the regression coefficient.

These critiques are useful in shaping and guiding my study of the socioeconomic status attainment of women veterans. While it may not be possible to improve upon all of the critiqued areas, I have attempted to address several of them in this paper.

HYPOTHESES

Based on the theoretical perspectives I have presented and given the results of previous research, I hypothesize that:

1. Overall, women veterans have achieved greater socioeconomic status than their non-veteran counterparts.

2. Minority veterans receive more of a socioeconomic benefit (or less of a cost) for their veteran status relative to minority non-veterans than do non-minority veterans relative to similar non-veterans.

3. Older female veterans have achieved greater socioeconomic status, relative to similar non-veterans, than younger veterans compared to younger non-veterans.

4. Veterans who are married receive either less of a marriage premium or more of a marriage penalty (in terms of socioeconomic status) compared to similar non-veterans.

5. Having a young child is more costly (in terms of socioeconomic status) for women veterans than for women non-veterans.

In these hypotheses, "non-veteran" primarily refers to those individuals who have no military service. I will also offer comparisons of an exploratory nature between veterans and their active duty and Guard/Reserve counterparts. Based on the research of Phillips et al. (1992) and the theoretical perspectives I have presented, I expect that:

6. Young women veterans are disadvantaged relative to those who were in the military, but that this disadvantage diminishes with age.

METHODS

The data set that I will be using for this study is the 1990 Public Use Microdata Sample L (PUMS-L), which was produced by the U.S. Bureau of the Census under contract with the Louisiana Population Data Center. This is a .45% sample and includes records on 1,139,142 individuals. This data set is considerably different from other PUMS data sets in the geographic delineation of the data. Tolbert and Sizer (1996) divided the United States into 741 commuting zones based on individuals' journey-to-work data from the 1990 Census. These commuting zones use counties (or their equivalents) as the basic unit of analysis and aggregate them to provide a picture of the areas in which individuals both live and work. The commuting zones were then combined into 394 labor market areas (LMAs) and certain areas were oversampled to ensure that each LMA contained the records of at least 100,000 individuals.

Sampling weights are included to compensate for the oversampling of certain LMAs. However, preliminary analysis showed that sample weighting did not substantively impact the results of this analysis. In addition, Teachman and Call (1996, p.11), who encountered a similar sample weighting scheme in their unbalanced subsample of the 1986 NLS, state that "the use of weights undermines the asymptotic theory upon which the calculation of the standard errors of the regression coefficients is based." For these reasons, I will use non-weighted data for my analysis.

The PUMS-L data set is especially suited for the purpose of this study. It provides detailed information on respondents' personal and household characteristics that

can be used to calculate several measures of socioeconomic status while controlling for a variety of variables that have been linked to status attainment. These include certain labor market characteristics that may operate differently within local labor markets than on a regional or national level. The relatively large sample size, unlike that of the NLSY, helps to ensure that insignificant results are not simply due to an insufficient number of subjects.

There are, however, certain limitations of the data that must be recognized. First of all, these are not longitudinal data. Therefore, I am only able to take a snapshot of this sample at one very specific time and am unable to trace the effects of military service on individuals through time. Second, these data contain no information regarding the veterans' occupational specialties while they were on active duty. Thus, skill transferability issues will not be addressed. Third, these data contain no measure of ability which can be used to help mitigate the effects of selection bias. Although I will use a variety of control variables to account for this effect, there is the potential for results achieved using these data to be simply a reflection of military recruiting policy and not the effects of military service itself. Therefore, conclusions must be drawn with caution.

I have decided to limit the number of individuals in this sample by including only those persons aged nineteen or older. I chose the lower age limit because this is the youngest a veteran could be in 1989 based on entering the service at age seventeen and serving a minimum two year active-duty commitment. Younger "veterans" are likely to have left the service prior to the completion of their contract or provided erroneous information on the census. As I am focusing only on veterans of the AVF, veterans who

served prior to May 1975 are excluded. While the AVF began in 1973, the coding of the data provided no closer alternative cutoff date.

In order to establish an upper age limit to help make the samples of veteran and non-veteran personnel more comparable, I examined the age distributions of women veterans of the AVF. Ages for this group of women ranged from 19, the set lower limit, to 60. Applying this age range to the non-serving women, however, resulted in a significant and substantial difference in the mean ages of the two groups, which may have tainted any comparisons between the groups. The mean age for women veterans was 29.6 years and the mean age for non-veterans was 46.9 years. Since approximately 96% of the women veterans were aged 40 and below, I chose to eliminate those individuals aged 41 or over from my analysis. By doing so, I dropped 3.6% of the women veterans and 55.6% of the women non-veterans from this study. The mean age of the women veterans dropped slightly to 29.0 years while the mean age of the women non-veterans fell to 29.8 years, making the two groups more comparable in terms of age.

Another criterion on which I chose to limit my sample is education. More specifically, I removed those individuals with less than a high school diploma or GED from the analysis in order to make the non-veteran sample more comparable to the veterans. Since 1983, at least 90% of all DoD active duty non-prior-service accessions have had a high school diploma (AFIS 1991; AFIS 1987; AFIS 1984). Although the percentage of high school graduates among all military recruits was dramatically different in the earlier years of the AVF (e.g., 1974-1976: 66%, 1977-1980: 71% (Binkin 1984)), the percentage of high school graduates among women recruits was not. For example, from 1974-1976, while the percentage of high school graduates for all enlisted recruits

ranged from about 61% in 1974 to 69% in 1976, the percentage of high school graduates among women enlisted recruits topped the 90% mark each year (Binkin and Bach 1977).

This point is further illustrated by a closer examination of enlisted Army recruits. In the first ten years of the all-volunteer Army, less than 62% of male enlisted recruits had completed high school, while 92% of enlisted female recruits had earned their high school diploma (Binkin 1984). Indeed, less than 4% of the women veterans in this sample (given the age restrictions) had not earned their high school diploma or GED. The percentage of non-serving females in this sample who had not earned their high school diploma or GED is about 16%. A sizable proportion of the non-serving individuals, then, were unlikely to have been selected for military service even had they chosen to serve. Thus, to make the two groups, veteran women and non-serving women, more comparable in an attempt to limit the effects of selection bias, I decided to drop all individuals without a high school diploma or GED from this study. To summarize, the following individuals have been deleted from this study and are, thus, not represented by the following analysis: veterans who began service prior to May 1975, those women who were younger than 19 or older than 40, and those individuals without a high school diploma or GED.

Applying these limitations, my sample will consist of the respondents in TABLE 2: women veterans (who have served only during the AVF era from May 1975 on), women who have had no military service, women who are on active duty, and women whose military service has been within the National Guard or Reserve components only. These women are aged 19-40 years old and have all earned a high school diploma or

TABLE 2: Sample Population: Veteran Status by Race/Ethnicity

Military Status	White, Non-Hispanic		African-American		White, Hispanic		Other	
	Female	Male	Female	Male	Female	Male	Female	Male
Veteran	1195	8373	243	1289	56	404	82	489
Non-Serving	129809	103491	14576	8895	6336	5065	8468	7140
Active Duty	381	3181	153	847	20	178	27	312
Guard/Reserve	427	3687	125	426	30	149	27	209

GED. The number of males in my sample, to which the same exclusion criteria were applied, are also included in TABLE 2, as I will be presenting some results for male veterans for the purpose of comparison.

<u>Measures</u>

As I stated in my critique of prior studies, most studies tend to use a limited number of measures to ascertain socioeconomic status. This paints a relatively narrow picture of veterans' status attainment. For the purpose of this study, I will take one category of dependent variables, income/earnings, and analyze two measures that will broaden our view of the socioeconomic status of female veterans. In particular, I will look at earnings and family income and the natural logarithms thereof (to help compensate for the positive skew associated with each measure). I will discuss the major dependent, independent, and intervening variables in some detail and then briefly describe the control variables that I intend to use.

<div align="center">Dependent Variables</div>

Earnings and Ln(Earnings) - Earnings, as defined by the U.S. Bureau of the Census

(1992, p. B-16), is the "algebraic sum of wage and salary income and net income from farm and nonfarm self employment" for the calendar year 1989. It is a continuous variable ranging from -$19,996 to $284,000. Individuals with earnings above $284,000 have their earnings coded as their state's median of those with earnings exceeding the top code (using the 1% PUMS data) (see U.S. Bureau of the Census, 1982, p.C-12 for state medians). From the human capital model, individuals are assumed to be paid according to their human capital and potential productivity (Fredland and Little 1985). If veteran status is to have an

effect on economic gains in the labor market, this measurement is the one most able to directly measure it.

Family income and Ln(Family income) - As I stated earlier, the socioeconomic status of some individuals (e.g., housewives) may, for various reasons, be associated more with their family's income rather than their own. Although this measure was not used in the studies that I have reviewed, it may provide additional insight into the socioeconomic status attainment of female veterans. Family income includes "the incomes of all members 15 years old and over in each family" (U.S. Bureau of the Census 1982, p.B-17) for the calendar year 1989. It is a continuous variable that ranges between the family's state's bottom code and top code (for the 1% PUMS data) (see U.S. Bureau of the Census, 1982, p.C-11). Family income is reported for 1989, but family characteristics such as marital status and number of children are in reference to April 1990. However, according to the U.S. Bureau of the Census (1982, p.B-17), "the composition of most families was the same during 1989 as in April 1990."

Independent Variables

Military Status - This is a set of three constructed dummy variables where, on the first variable, non-veterans are coded as 1 and veterans, active-duty, and Guard/Reserve personnel are coded as 0. Active-duty personnel are coded as a 1 on the second variable, while all others are coded as 0. Guard/Reserve personnel are coded as 1 on the third variable, while all others are coded as 0. The excluded group is veterans (defined as those who have previously served on active duty with the U.S. Armed Forces, but are no longer on active duty).

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Intervening Variables

Bridging Environment Hypothesis:

Length of Service - This is continuous variable which contains the number of years of

military service an individual has. It is a measure of work experience as well as

labor force interruption that may be significant in determining earnings.

Potential Civilian Labor Market Experience- This is a constructed continuous variable.

Duncan et al. (1993) use the following formula to calculate this variable: Age -

Years of Education - 5. However, because time spent in the military is also

unlikely to contribute directly to civilian labor force experience (like education), I

also subtracted any years of military service from this equation. The square of

this variable is also used in regression analysis to compensate for the declining

value of civilian experience over time.

Educational Attainment - This variable is approximately equal to the number of years of

education an individual has: 12 = high school diploma or GED; 13 = some

college, no degree; 14 = Associate degree; 16 = Bachelor's degree; 18 = Master's

degree; and 21 = Doctorate or professional degree. One disadvantage of this

data set is that it can not be determined exactly how many years of college those

with some college, but no degree have earned.

Percent of Occupation that is Male ÷ 10 - For each three-digit occupational category, I

constructed a continuous variable that indicates the percentage of those

individuals employed in the occupation who are men (based on individual-level

data from all employed individuals in the PUMS-L data set aged 16 or older).

This variable is only calculated for employed individuals. Active duty personnel

have been occupationally classified according to their civilian job equivalent. Active duty personnel whose jobs did not equate to a civilian occupation were classified as either "Commissioned Officers and Warrant Officers," "Non-commissioned Officers and Other Enlisted Personnel," or "Military occupation, rank not specified." I have divided the percentage of men in an occupation by 10 because of the small regression coefficients associated with this characteristic discovered in preliminary analysis. Coefficients of this variable will now be interpreted as the change in the dependent variable associated with a 10 percentage point change in the percentage of men in an occupation. While this technique has not been used with this measure in other studies I have reviewed, it does not affect the regression equation other than to change the scale of the parameter estimate associated with this variable and to improve the clarity of the interpretation of the parameter estimate. This technique is commonly used with other measures such as income, which may be divided by 1000 and interpreted in terms of thousands of dollars.

Familial Considerations:

Marital Status - This is a set of two dummy variables. One indicates married (not separated) or otherwise and the other indicates whether an individual is divorced, widowed, separated, or not. The excluded category is single, never married.

Number of Children - This is a continuous variable that represents the number of children ever born. This variable is not calculated for men, as the data for men were not in the PUMS-L data set.

Children Under 6 Years Old - This variable is a dummy variable that indicates whether or not a women has her own child/children present who are under the age of six. This variable is not calculated for men, as the data for men were not in the PUMS-L data set.

Veteran Status as a Screening Device:

Percent of LMA Labor Force that is Veteran - This is a continuous variable which I calculated (based on individual-level data from the entire PUMS-L sample) that will equate to the percentage of the labor force that has served on active duty with the U.S. Armed Forces in each LMA. I defined the labor force to be everyone aged 16 and over who was employed or unemployed (i.e., without a job but looking for work), including both men and women. For each LMA, I divided the number of veterans in the labor force by the total number of people in the labor force. It is theoretically important to include this variable, as it functions as an implicit test of DeTray's (1982) screening hypothesis. He predicted that the higher the proportion of veterans within a subgroup, the more valuable will be veteran status as a screen (DeTray 1982). While DeTray used age cohorts as his subgroups, the same logic seems to be more applicable to labor forces. If this variable is significant, especially within the earnings regression equations, it would lend support to that theory.

Percent of LMA Labor Force on Active Duty - This is a continuous variable I calculated (using individual-level data from the entire PUMS-L sample) based on those individuals who are on active duty in the labor force of each LMA. Again, I defined the labor force to be everyone aged 16 and over who was employed or

unemployed (i.e., without a job but looking for work), including both men and women. For each LMA, I divided the number of active duty personnel in the labor force by the total number of people in the labor force. This is a proxy measure for living near a military installation and, for those not on active duty, the likelihood of being married to a military member.

Control Variables

Demographics:

Age - This is a continuous variable equal to the age, in years, of the respondent. Because this variable is a linear combination of an individual's length of military service, potential civilian labor market experience, and education, age will be excluded from all regression equations.

Gender - This is a dummy variable where males are coded as 0 and females as 1.

Race/Ethnicity - This is a set of three dummy variables: one for white, Hispanic; one for black (Hispanic and non-Hispanic); and one for other (not black or white). Those in the "other" category are of Asian, American Indian, Pacific Islander, Eskimo, Aleut, or unspecified ethnicity. The excluded group is white, non-Hispanic.

Enrolled in School - This is a dummy variable that indicates whether or not an individual was "attending a 'regular' public or private school or college at any time between February 1, 1990, and the time of enumeration" (U.S. Bureau of the Census 1992) (1 = enrolled).

Individual Labor Force Participation:

Approximate Number of Hours Worked in 1989 ÷ 40- This is the usual number or hours

worked per week in 1989 multiplied by the number of weeks worked in 1989

divided by 40. In preliminary analysis, this variable explained more of the

variance in earnings than separate variables for the usual number of hours worked

per week and the number of weeks worked in 1989. In the name of efficiency, I

chose to use the single variable instead of two separate variables. I have divided

the hours worked by 40 because of the small regression coefficients associated

with a 1 hour change in this characteristic discovered in preliminary analysis.

Coefficients of this variable can now be interpreted as the change in the

dependent variable associated with a 40 hour change (or about one full-time

work-week) in the approximate total time worked in 1989. This variable will

only be used in earnings equations.

Local LMA Characteristics:

All aggregate LMA characteristics were calculated using individual-level data

from all individuals in the PUMS-L data set aged 16 or older. The one exception is the

poverty rate, which includes individuals regardless of age.

Unemployment Rate - This is a continuous variable I constructed which indicates the

percentage of the civilian labor force that is unemployed for each LMA . An

unemployed individual is defined as being neither at work nor with a job but not

at work, and looking for work in the past four weeks, and available to accept a

job, or those who were temporarily laid off and were waiting to be recalled

(Cohany 1990; U.S. Bureau of the Census 1992).

Poverty Rate - This is a continuous variable I constructed that equals the percentage of

   individuals who live at or below the poverty line in each LMA. The U.S. Census

   Bureau excludes the following individuals from poverty calculations: those who

   are institutionalized, unrelated individuals under the age of 15, and those who live

   in military group quarters or college dormitories (U.S. Bureau of the Census

   1992). Poverty is defined by the Social Security Administration and is based on

   the size of the family, number of children under eighteen, and, in one and two

   person households, the age of the householder. Those individuals whose families

   do not earn income that is three times that necessary to support a nutritionally

   adequate diet, are considered below the poverty line (U.S. Bureau of the Census

   1992). TABLE 3 gives the exact poverty thresholds and is taken directly from

   the U.S. Bureau of the Census (1992, p. B-28):

Percent of LMA Labor Force that is Minority - This is a continuous variable I

   constructed based on those minorities who are defined to be in the labor force.

   For the purpose of this variable, a minority is defined as an individual who is not

   white, non-Hispanic.

Percent of LMA Labor Force that is Female - This is a continuous variable I constructed

   based on those females who are defined to be in the labor force.

<u>Statistical Methodology</u>

   In order to test my hypotheses and explore the relationship between military and

socioeconomic status, I conducted four phases of statistical analysis: description,

comparison of dependent measures, and two phases of regression. I first calculated

descriptive statistics on selected characteristics of my sample, disaggregating the data by

TABLE 3: Poverty Thresholds in 1989 (Dollars)

Size of Family Unit	Related Children Under 18								
	0	1	2	3	4	5	6	7	8+
1 (householder < 65)	6451								
1 (householder ≥ 65)	5947								
2 (householder < 65)	8303	8547							
2 (householder ≥ 65)	7495	8515							
3	9699	9981	9990						
4	12790	12999	12575	12619					
5	15424	15648	15169	14798	14572				
6	17740	17811	17444	17092	16569	16259			
7	20412	20540	20101	19794	19224	18558	17828		
8	22830	23030	22617	22253	21738	21084	20403	20230	
9+	27463	27596	27229	26921	26415	25719	25089	24933	23973

race/ethnicity and military service. I calculated means and standard deviations for all key variables. I then compared the veterans' statistics to those of non-serving individuals, active duty personnel, and those with service only in the Guard or Reserves using a t-test for the difference of means (or the difference of proportions)

I next created multivariate tables to display mean values of the dependent variables. Race/ethnicity, age, education, marital status, number of children ever born, work status, percentage of LMA labor force that is veteran, and percentage of LMA labor force that is on active duty are all addressed. For each racial/ethnic group, the means of the dependent measures for veterans were compared to those in other military status categories using a difference of means test.

The comparison of mean values across multivariate tables, while providing valuable insight into the socioeconomic status attainment of women veterans, did not permit the analysis of any veteran disadvantage or advantage simultaneously controlling for a multitude of relevant factors. Therefore, I turned to multivariate regression models to assess the impact of military service net of the other variables considered in this study (via analysis of the coefficients of the military status variables).

In order to explore the differential values of the various independent and control variables for women veterans and those with no military service, I also estimated separate multivariate regression equations for these two military status groups within each racial/ethnic category. To test the significance of the differences in the regression coefficients between women veterans and non-serving women, I ran an interaction model (which included only veterans and non-serving individuals) for each racial/ethnic category, interacting veteran status with each of the other variables in the equations.

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<u>Other Sample Constraints</u>

I chose to exclude some individuals from statistical analysis involving earnings: those with missing values, those who earned nothing or had negative earnings in 1989, and those who were not employed. These individuals, however, were not automatically excluded from analysis involving other variables (i.e., family income). As no one had a missing value for earnings, this criterion did not eliminate anyone. I chose to eliminate those with non-positive earnings on statistical grounds. First, since I was using the natural logarithm of earnings, and it is not possible to take the logarithm of a non-positive number, I decided to either remove those observations with zero or negative earnings from analysis when analyzing earnings or to bottom code non-positive values of earnings to a small, positive value. After exploring the latter option in preliminary analysis by coding all zero and negative values to .01, I determined that the bottom coding method was unsuitable because of the resulting large departure from normality of the distributions of the ln(earnings), which adversely affected hypothesis testing and regression analysis. I chose, then, to exclude individuals with non-positive earnings in 1989 from analysis involving earnings.

Excluding the women with non-positive earnings in 1989 from this portion of the study eliminated 29,266 women: about 18% of the women remaining in the sample. These women had an average age of 30.3 years. Of the original sample (restricted by age and education), these women accounted for about 15% of the veterans, 18% of individuals with no military service, 2% of active duty personnel, and 11% of individuals with service in the Guard or Reserve only. Ethnically, these women accounted for 17% of white, non-Hispanic women, 21% of African-American women, 20% of white,

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Hispanic women, and 27% of women in other racial/ethnic categories. For the most part, these women appear to be traditional housewives. Seventy-one percent of them are married and 80% have had children (65% are both married and have at least one child, 6% of this group are married with no children, and 7% are single, never married mothers). Approximately 79% of these women are not in the labor force and worked (outside the home), on average, less than 1 week in 1989.

I also decided to exclude from earnings analysis those individuals who are not currently employed (i.e., they are unemployed or not in the labor force). As I intend to include information on an individual's current occupation, such as the percentage of those employed in an individual's current occupation who are male, those who are not currently employed would contain missing information and, thus, would not be able to be included in the regression analysis. The socioeconomic status of these women may be better measured by family income.

By excluding women who had positive earnings in 1989, but were not currently employed, from the analysis of earnings, another 20,975 women (about 13%) were removed from this part of my analysis. These women had an average age of 27.4 years. Of the original sample (restricted by age and education), these women accounted for about 20% of the veterans, 13% of individuals with no military service, 0% of active duty personnel, and 18% of individuals with service in the Guard or Reserve only. Ethnically, these women accounted for 13% of white, non-Hispanic women, 15% of African-American women, 12% of white, Hispanic women, and 14% of women in other racial/ethnic categories. Also, there appears to be a large number of housewives in this deleted group, as 55% were married 62% have had a child (46% are both married and

have at least one child, 9% of this group are married with no children, and 6% are single, never married mothers). Seventy-five percent of these women are not in the labor force. Included in this group are also likely to be part-year/seasonal workers who are currently unemployed. These women, on average, worked about 25 weeks during 1989. Another group that is included in this group is students, as 31% of these women (compared to about 18% in the entire sample) are enrolled in school.

Looking at the total number of women excluded from analyses involving earnings, we find that 50,241 women (about 31%) have been excluded. While the number is fairly large, this excluded group draws relatively evenly from the different racial/ethnic categories (although slightly more from "other" races/ethnicities) and military status groups (except active duty personnel). Of the original sample (restricted by age and education), these women accounted for about 35% of the veterans, 31% of individuals with no military service, 2% of active duty personnel, and 30% of individuals with service in the Guard or Reserve only. Ethnically, these women accounted for 30% of white, non-Hispanic women, 35% of African-American women, 32% of white, Hispanic women, and 41% of women in other racial/ethnic categories.

In the analysis of family income, I decided to exclude certain individuals as well. As with the individuals excluded from analysis involving earnings, those excluded from analysis involving family income were not automatically excluded from analysis involving other variables (i.e., earnings). These individuals are those that have missing values for family income and those whose family income is less than or equal to zero. The U.S. Bureau of the Census did not calculate family income for those individuals living in group quarters, such as college dormitories and military barracks. Thus, these

individuals have missing values for family income. Three-thousand three-hundred and seventeen women (about 2%) are in this category. This is a relatively young group of women, with an average age of 21.3 years. As one would predict, 92% of these women are single and 85% of them are enrolled in school. Of the original sample (restricted by age and education), these women accounted for less than 1% of the veterans, 2% of individuals with no military service, 36% of active duty personnel, and 3% of individuals with service in the Guard or Reserve only. Ethnically, these women accounted for 2% of white, non-Hispanic women, 3% of African-American women, 2% of white, Hispanic women, and 3% of women in other racial/ethnic categories.

For reasons similar to why I chose to exclude individuals with non-positive earnings, I have chosen to exclude individuals with non-positive family income from analysis involving family income. The 1,298 women excluded by this criterion make up less than 1% of the original sample (restricted by age and education). These women accounted for less than 1% of the veterans, individuals with no military service, active duty personnel, and individuals with service in the Guard or Reserve only. Ethnically, these women accounted for less than 1% of white, non-Hispanic women, 2% of African-American women, less than 1% of white, Hispanic women, and 2% of women in other racial/ethnic categories. These women have a mean age of 29 years. Included in this group are those likely to be living on "income 'in kind,' savings, or gifts, were newly created families, or families in which the sole breadwinner had recently died or left the household" (U.S. Bureau of the Census 1982, p.B-18). Welfare recipients are not counted in this group, as welfare payments are included in family income.

RESULTS

Description

I used a difference of means test or a difference of proportions test, as appropriate, to make the comparisons between veterans and individuals in other military status categories. An alpha level of 0.05 was used to test the equality of the variances (using an F-test) in the difference of means test to determine the appropriate formula for calculating the t-statistic (Blalock 1979). I used a two-tailed t-test and set the alpha level at 0.05 to judge the statistical significance of the achieved differences. Unless otherwise noted, all specific results reported in this section are significant at the 0.05 level (at least).

The racial/ethnic composition of my sample is what one would expect when the data are disaggregated by military status (TABLE 4). That is, African-American women are overrepresented in all three groups with some type of military service. White, non-Hispanic women are underrepresented in these three groups. Those women who reported that they were white, Hispanic or in the "other" category made up similar percentages across all categories of military status.

Examining each racial/ethnic group more closely, I will describe some of the key characteristics of each group, disaggregating the data by military status and comparing the characteristics of veterans in that racial/ethnic group to those with no military service, active duty personnel, and individuals with service only in the Guard or Reserves. The characteristics I have selected are age, years of education, percent who have completed a bachelor's degree or more, percent enrolled in school, years of military

TABLE 4: Sample Population (Women): Race/Ethnicity by Military Status (in Percents)

Racial/Ethnic Group	All Military Status Groups	Veteran	Non-Serving	Active Duty	Guard/Reserve
White, Non-Hispanic	82	76	82	66	70
African-American	9	15	9	26	21
White, Hispanic	4	4	4	3	5
Other	5	5	5	5	4
Total	(N=161955) 100%	(N=1576) 100%	(N=159189) 100%	(N=581) 100%	(N=609) 100%

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service, years of potential civilian labor market experience, marital status, number of children ever born, percent who are childless, percent who live with at least one of their own children who is under six years old, employment status, approximate number of hours worked in 1989, percent of current occupation that is male, percent of local labor force that is veteran, and percent of local labor force that is on active duty.

White, Non-Hispanic Women

(TABLE 5)

On average, women veterans in this group are 29 years old. They are significantly younger than their non-serving counterparts by 1 year and older then their active duty counterparts by 3 years. There is no significant difference in age between veterans and those with service only in the Guard or Reserve.

In terms of education, veterans have only about 0.2 years of education less than non-serving individuals. However, looking at the percentage of individuals who have completed at least a Bachelor's degree, we see a much more substantial difference. More than 20% of non-serving individuals, active duty personnel, and those with service only in the Guard or Reserves fall into this category, while only about 14% of veterans do. While age and time lost due to military service may account for some of the difference between veterans and non-serving individuals on this characteristic, as I will explain below, the family choices women veterans make following their exit from the service may limit their ability to complete their degree. The large percentage of Guard/Reserve personnel enrolled in school may reflect those women in college Reserve Officer Training Corps (ROTC) programs, although this cannot be discerned from these data.

TABLE 5: Selected Characteristics of White, Non-Hispanic Women

Characteristic	Veteran N = 1195		Tests of Significance (see note below)	Non-Serving N = 129809		Active Duty N = 381		Guard/Reserve N = 426	
	% or Mean	Std Dev		% or Mean	Std Dev	% or Mean	Std Dev	% or Mean	Std Dev
Age in years	29.0	4.7	N*** A***	30.0	6.2	25.9	5.4	28.6	6.0
Years of education	13.3	1.7	N*** G**	13.5	1.8	13.4	1.7	13.6	1.7
% with B.A. degree or higher	14.2		N*** A** G**	20.5		20.5		20.6	
% enrolled in school	17.7		G***	16.8		15.7		26.2	
Years of military service	3.2	2.1	N*** A*** G***	0.0	0.0	5.0	3.8	0.0	0.0
Years of potential civ. experience	7.5	4.5	N*** A*** G***	11.5	6.2	2.5	3.2	10.1	5.7
% married, not separated	61.8		A*** G**	64.3		48.0		53.9	
% divorced, widowed, separated	19.0		N*** A** G***	11.3		11.8		11.7	
% single, never married	19.2		N*** A*** G***	24.4		40.2		34.4	
Number of children ever born	1.2	1.2	N** A*** G**	1.3	1.3	0.6	0.9	1.0	1.2
% childless	36.4		A*** G***	37.6		65.4		49.4	
% with child(ren) under 6 yrs old	42.2		N*** A*** G***	33.3		21.5		31.4	
% employed	68.9		N** A***	72.5		100.0		73.1	
% unemployed	6.9		N*** A***	3.7		0.0		4.9	
% not in the labor force	24.3		A***	23.8		0.0		22.0	
Number of hours worked in 1989	1400.5	931.9	N*** A*** G*	1289.1	910.4	2113.8	707.1	1326.9	871.4
% of occupation that is male	38.8	30.4	N*** A*** G*	32.3	26.0	59.8	31.5	34.6	28.6
% of labor force that is veteran	15.9	2.1	N*** G***	15.3	2.1	15.7	2.1	15.5	1.9
% of labor force on active duty	2.7	4.9	N*** A*** G***	1.1	2.7	6.4	6.1	1.4	2.7

Veterans different from: N - non-serving individuals, A - active duty personnel, G - those with service in Guard/Reserve only

At the following levels of significance (two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Work experience, for veterans, can basically be divided up into that experience gained while on active duty, as measured by length of service, and potential civilian labor market experience. While non-serving individuals have a definitive edge in potential civilian labor market experience, the combined total experience (length of service and potential civilian labor market experience) of veterans is only about one year less than that of non-serving individuals, which can be accounted for by the difference in age. Active duty personnel and those with service only in the Guard or Reserve have less total experience than veterans, but, again, this is driven by age.

Familial variables tell an interesting story about the difference between veterans and non-serving individuals. They are equally likely to be married, but the percentage of veterans who are divorced, widowed, or separated is significantly greater than the percentage of non-serving women who are in a similar situation. In addition, veterans are significantly less likely to be single, never married, than any other military status group. In terms of child bearing, veterans have slightly fewer children than non-serving individuals (only 0.1 fewer) and are more likely to have a child under 6 years old.

This pattern is significant in light of the active duty statistics presented here and the previous discussion of Segal's (1986) characterization of the military as a greedy institution. While these are not longitudinal data, it is likely to be a safe assumption that the veterans of this study looked much like the active duty personnel in this study in terms of familial variables, when they were on active duty. That is, they were much more likely to be single and they most certainly had fewer children. However, after getting out of the service, these veterans appear to have almost "caught up" to their non-serving counterparts in terms of marriage and procreation.

In fact, if one looks at the percentage of individuals ever married, the number for veterans exceeds that of non-veterans. While veterans were investing time in starting families and having children, it appears that non-serving individuals may have been investing time in education and finishing their degrees. An alternative explanation is that veterans did not "catch up" in terms of marriage and procreation after leaving the service, but left the service because they had young children or got married and were having difficulty meeting the demands of both greedy institutions (i.e., the military and the family). Both explanations may be partly correct, but this cannot be tested using these data.

Looking at individual labor force participation, white, non-Hispanic women veterans are employed at a significantly lower rate than non-serving women and unemployed at a significantly greater rate. Veterans usually worked more often than their non-serving counterparts and in occupations that contained a higher proportion of employed men. Active duty personnel, on average, worked the most during 1989 and in occupations that contained the highest percentages of employed males. The reason that the percentage of males in active duty occupations is lower than what we would expect, given our knowledge of the gender composition of the U.S. Armed Forces (i.e., women make up only about 13% of the active duty force and are still concentrated in traditionally female jobs), is that active duty personnel, unless they have a job that is unique to the military, are coded by the Census Bureau according to the civilian equivalent of their military occupation.

Lastly, in examining the labor forces within the labor markets in which individuals live, we find that women veterans tend to live in areas with a higher percentage of

veterans and active duty personnel in the labor force than women with no service. The same holds true when comparing veterans to women with service only in the Guard or Reserve. Women veterans may be more likely to live in areas of higher concentrations of active duty personnel because more are probably married to active duty husbands (although I do not have this information for this sample). Another explanation may be that women who leave the service tend to stay near the last military installation at which they were stationed and find civilian employment there. Again, the limitations of these data do not allow me to examine this possibility.

African-American Women

(TABLE 6)

African-American veterans in this sample are, on average, about the same age as their non-serving counterparts and significantly older than the active duty personnel and individuals with service only in the Guard or Reserve. As expected, then, total experience of veterans and individuals with no service is about equal, while veterans' total experience is greater than that of active duty and Guard/Reserve personnel.

Educationally, African-American women veterans, unlike white, non-Hispanic veterans, do not differ significantly on any measure of education from their non-serving or active duty counterparts. Again, however, there is a large percentage of Guard/Reserve personnel who are enrolled in school (significantly more than the percentage of enrolled veterans). It is also noteworthy that while African-American veterans do not differ significantly (at the 0.05 level of significance) from their white, non-Hispanic veteran counterparts in terms of their years of education or the percentage who have earned at least a 4-year degree, African-American women with no military

TABLE 6: Selected Characteristics of African-American Women

Characteristic	Veteran N = 243 % or Mean	Std Dev	Tests of Significance (see note below)	Non-Serving N = 14576 % or Mean	Std Dev	Active Duty N = 153 % or Mean	Std Dev	Guard/Reserve N = 125 % or Mean	Std Dev
Age in years	29.2	4.9	A*** G**	29.2	6.2	24.8	4.6	27.3	6.0
Years of education	13.1	1.5		13.1	1.6	13.2	1.3	13.3	1.3
% with B.A. degree or higher	11.1			13.2		13.1		12.8	
% enrolled in school	16.0		G***	18.6		22.2		31.2	
Years of military service	3.7	2.3	N*** A*	0.0	0.0	4.4	3.6	0.0	0.0
Years of potential civ. experience	7.3	4.9	N*** A*** G**	11.1	6.2	2.2	2.9	9.0	5.7
% married, not separated	47.3		N*** G***	34.4		38.6		24.8	
% divorced, widowed, separated	24.3		N** A* G*	17.4		14.4		15.2	
% single, never married	28.4		N*** A*** G***	48.3		47.1		60.0	
Number of children ever born	1.4	1.2	A*** G***	1.4	1.4	0.7	1.3	0.9	1.0
% childless	28.8		A*** G**	31.7		56.9		44.0	
% with child(ren) under 6 yrs old	42.8		N*** A*** G***	32.7		23.5		22.4	
% employed	64.2		A***	67.4		100.0		71.2	
% unemployed	14.0		N* A***	10.1		0.0		15.2	
% not in the labor force	21.8		A***	22.5		0.0		13.6	
Number of hours worked in 1989	1321.0	935.6	A***	1236.5	930.3	1991.3	886.1	1330.1	899.0
% of occupation that is male	35.3	27.6	A***	32.0	25.0	60.6	30.6	34.8	27.9
% of labor force that is veteran	15.0	2.1	N*** A***	14.3	2.1	15.9	1.9	14.8	1.9
% of labor force on active duty	5.1	7.6	N*** A*** G***	1.8	3.6	9.1	7.4	2.4	4.1

Veterans different from: N - non-serving individuals, A - active duty personnel, G - those with service in Guard/Reserve only

At the following levels of significance (two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

service, who are on active duty, and who have served only in the Guard or Reserve are significantly less likely to have earned at least their bachelor's degree than their white, non-Hispanic counterparts.

Women veterans in this racial/ethnic category are more likely to be married as well as divorced, widowed, or separated than non-serving women. Although, on average, veterans have the same number of children as non-serving individuals, the veterans are more likely to have preschool children. This is likely to reflect the delay in childbearing influenced by the demands of military service.

Similar to white, non-Hispanic veterans, African-American veterans experience unemployment more frequently than those without military service. Unlike white, non-Hispanic veterans, though, these women did not differ significantly from their non-serving counterparts in terms of the time spent at work in 1989 or in the percentage of males employed in their occupations.

Looking at the percentage of veterans and active duty personnel in the labor force in each LMA, veterans again tend to live in areas with a higher percentage of veterans and active duty personnel in the labor force than individuals with no service. As with other groups of women veterans, this may reflect the marriage patterns of these women or their tendency to remain in the area of their last military station.

White, Hispanic Women

(TABLE 7)

In statistical tests requiring the assumption of normality, the assumption of normality may almost always be relaxed with sample sizes greater than or equal to 100 and, with some caution, with sample sizes greater than or equal to 50 (Blalock 1979).

TABLE 7: Selected Characteristics of White, Hispanic Women

Characteristic	Veteran N = 56		Tests of Significance (see note below)	Non-Serving N = 6336	
	% or Mean	Std Dev		% or Mean	Std Dev
Age in years	27.9	4.6	N*	29.3	6.2
Years of education	13.1	1.8		13.3	1.8
% with B.A. degree or higher	14.3			17.5	
% enrolled in school	17.9			20.8	
Years of military service	3.3	1.7	N***	0.0	0.0
Years of potential civ. experience	6.5	4.4	N***	11.0	6.3
% married, not separated	60.7			55.1	
% divorced, widowed, separated	19.6			12.2	
% single, never married	19.6		N*	32.7	
Number of children ever born	1.3	1.2		1.2	1.3
% childless	32.1			42.4	
% with child(ren) under 6 yrs old	46.4		N*	31.1	
% employed	62.5			71.0	
% unemployed	12.5		N**	4.8	
% not in the labor force	25.0			24.2	
Number of hours worked in 1989	1448.3	936.2		1276.5	941.3
% of occupation that is male	37.1	29.6		31.9	25.6
% of labor force that is veteran	15.8	2.4	N***	14.5	2.5
% of labor force on active duty	2.6	4.9		1.3	2.6

Veterans different from: N - non-serving individuals, A - active duty personnel, G - those with service in Guard/Reserve only

At the following levels of significance (two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

However, the opposite is true when the sample size is less than or equal to 30 (Blalock 1979). Because of the small numbers of active duty and Guard/Reserve respondents remaining in the sample who are white, Hispanic or from "other" racial/ethnic groups (i.e., not white, non-Hispanic and not African American) ($N \leq 30$), these groups will not be compared to their respective veteran counterparts or included in further analysis.

White, Hispanic women veterans are significantly younger than their non-serving counterparts by 1.4 years. Thus, veterans' total experience is also slightly less than that of individuals with no military service. White, Hispanic veterans did not differ significantly from the non-serving women on any of the education characteristics, but the direction of the differences was similar to that experienced by other racial/ethnic groups.

In terms of familial variables, the veteran group, like the two racial/ethnic groups already described, was significantly less likely to be single, never married than the non-serving women and, on average, were more likely to have a child under age 6. Unemployment plagued women veterans in this racial/ethnic category as it did the other groups. The white, Hispanic veterans' unemployment rate was more than double that of non-serving individuals. The only other characteristic that was significant in this group was that veterans tend to live in areas with a higher concentration of veterans. Although differences in other characteristics are notable, they did not reach statistical significance due to the small number of veterans in this group.

Women of Other Race/Ethnicity

(TABLE 8)

Those women whom I have classified in the "other" racial/ethnic category are those women who are not white nor black (e.g., Asian and Native American). While

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TABLE 8: Selected Characteristics of Women of Other Race/Ethnicity

Characteristic	Veteran N = 82		Tests of Significance (see note below)	Non-Serving N = 8468	
	% or Mean	Std Dev		% or Mean	Std Dev
Age in years	29.0	5.2		29.0	6.2
Years of education	13.4	1.9		13.5	1.9
% with B.A. degree or higher	17.1			20.8	
% enrolled in school	24.4			24.9	
Years of military service	3.7	2.3	N***	0.0	0.0
Years of potential civ. experience	6.9	5.4	N***	10.5	6.1
% married, not separated	54.9			55.9	
% divorced, widowed, separated	19.5		N**	10.3	
% single, never married	25.6			33.8	
Number of children ever born	1.5	1.4		1.3	1.4
% childless	26.8		N*	39.6	
% with child(ren) under 6 yrs old	46.3		N*	34.5	
% employed	65.9			63.0	
% unemployed	12.2		N*	6.6	
% not in the labor force	22.0			30.4	
Number of hours worked in 1989	1249.2	917.3		1104.3	957.0
% of occupation that is male	42.9	33.2	N*	32.2	25.4
% of labor force that is veteran	15.5	2.4	N***	14.6	2.4
% of labor force on active duty	3.5	5.2	N**	1.7	3.1

Veterans different from: N - non-serving individuals, A - active duty personnel, G - those with service in Guard/Reserve only

At the following levels of significance (two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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combining these ethnic groups makes little theoretical sense, it was necessary because of the small numbers in these groups. It is also interesting to see that their patterns do not differ much from those of the other racial/ethnic groups. Veterans in this group were almost equally aged, educated, and experienced as non-serving individuals. They (veterans) were, however, more likely to be divorced and to have a child under 6 years old than individuals with no military service. Veterans were also less likely to have had no children than their non-serving counterparts. Like other racial/ethnic groups, "other" women veterans were disadvantaged in terms of their unemployment rate. Veterans also, on average, are employed in occupations with higher concentrations of male employees and live in areas with a higher percentage of veterans and active duty personnel in the labor force.

Comparison of Dependent Measures

A difference of means test was used to make comparisons between the earnings and family income of veterans and individuals in other military status categories. An alpha level of 0.05 was used to test the equality of the variances (using an F-test) in the difference of means test to determine the appropriate formula for calculating the t-statistic (Blalock 1979). I used a two-tailed t-test and set the alpha level at 0.05 to judge the statistical significance of the achieved differences. Unless otherwise noted, all specific results reported in this section are significant at the 0.05 level (at least).

Because of the smaller departure from normality of the distribution of the natural logarithm of the dependent variables (compared to the distribution of the non-transformed variables), I have primarily reported and based my conclusions on the differences between the means of the transformed variables and their associated tests of

significance in the text of this paper, although both transformed and non-transformed variables are presented in the tables. If a difference in a transformed variable is statistically significant, the difference for the non-transformed variable, if also significant, is reported in parentheses after the difference in the transformed variable. The differences between the logarithmically transformed dependent variables of veterans and those of the other military status groups are converted to the approximate percentage difference in the dependent variables between veterans and the other comparison groups by using the following formula (Mehay and Hirsch 1996, p.205; Thornton and Innes 1989, p.444):

Percentage Differential = [EXP(Logarithmic Differential) - 1] x 100

Earnings of Women by Race/Ethnicity

Looking at earnings when the data are disaggregated by race/ethnicity and military status (TABLE 9), there is only one statistically significant difference in the natural logarithm of earnings within any racial/ethnic group when comparing women veterans to those women with no military service, those on active duty, and those with service in the Guard or Reserve only. This difference is between white, non-Hispanic veterans and their active duty counterparts in the logarithm of earnings, with about a 18% earnings disadvantage going to the veterans.

For the purpose of comparison, male white, non-Hispanic veterans receive an 11% ($4153) earnings penalty relative to their non-serving counterparts, a 23% ($5040) earnings premium over similar active duty personnel, and an 11% ($3513) earnings penalty in comparison to those with service in the Guard or Reserve only. African-American male veterans, however, receive an 8% earnings advantage over similar

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TABLE 9: Earnings of Women by Race/Ethnicity

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard/Reserves		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
White, Non-Hispanic													
Earnings	790	15153	12417		90997	14836	12029	375	15649	8436	302	14478	11175
Ln Earnings	790	9.288	0.955	A***	90997	9.254	0.976	375	9.490	0.646	302	9.222	0.963
African American													
Earnings	150	14174	8272		9379	14327	10623	149	12833	7095	87	16015	10386
Ln Earnings	150	9.321	0.859		9379	9.248	0.952	149	9.212	1.042	87	9.351	0.965
White, Hispanic													
Earnings	35	13829	7487		4294	15152	12104	20	11353	5574	22	13166	12210
Ln Earnings	35	9.332	0.765		4294	9.301	0.932	20	9.232	0.480	22	9.011	1.140
Other													
Earnings	50	15475	11984		5018	15067	13029	27	13764	8038	19	15693	9705
Ln Earnings	50	9.196	1.175		5018	9.237	1.020	27	9.285	0.861	19	9.380	0.898

Significantly different from: N - non-serving individuals, A - active duty Personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance (two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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non-serving men and a 18% ($3865) advantage over active duty personnel. While white, Hispanic veterans did not differ significantly from their non-serving counterparts (in terms of the natural logarithm of earnings), they did receive a 37% ($5639) advantage over similar men on active duty. Those classified in the "other" race/ethnicity category also did not differ significantly from similar individuals with no military service, but earned a 14% ($4629) premium over their active duty counterparts.

In order to examine earnings differences more fully, I examined each racial/ethnic group of women individually, comparing the mean earnings of veterans with other military status groups within categories for age, education, marital status, number of children ever born, work status, percentage of LMA labor force that is veteran, and percentage of LMA labor force that is on active duty.

Earnings of White, Non-Hispanic Women

(TABLES 10-13)

Women veterans in this racial/ethnic group differed significantly from non-serving individuals in each age category. Younger veterans (≤ 25) had about a 16% earnings advantage over those with no service, based on the difference in the transformed earnings variable. This veteran advantage, however is replaced by a veteran disadvantage in the middle age group (26-32) of about 9% ($1258). The direction of the relationship switches again in the older age group, where veterans earned, on average, a 17% ($3145) premium over similarly aged non-serving individuals. White, non-Hispanic veterans across all age groups earned significantly less than their active duty counterparts. The difference ranges from a 20% earnings penalty for the youngest veterans to a 37% ($4097) earnings penalty for the oldest. Only the youngest group of

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TABLE 10: Earnings of White, Non-Hispanic Women by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Age													
≤ 25 yrs													
Earnings	168	10451	6173	G*	23878	9838	7556	200	11631	5201	107	8578	6238
Ln Earnings	168	9.011	0.827	N* A** G*	23878	8.862	0.932	200	9.230	0.591	107	8.758	0.847
26 - 32 yrs													
Earnings	423	14529	10888	N* A***	30586	15787	11312	119	18214	8202	96	15621	11207
Ln Earnings	423	9.265	0.957	N* A***	30586	9.364	0.935	119	9.675	0.604	96	9.345	0.934
≥ 33 yrs													
Earnings	199	20450	16788	N** A*	36533	17305	13885	56	24547	9389	99	19746	12345
Ln Earnings	199	9.572	0.981	N* A***	36533	9.417	0.968	56	10.027	0.425	99	9.604	0.910
Education													
High School													
Earnings	279	12360	7811		33399	11723	8574	127	11679	5322	80	12395	8030
Ln Earnings	279	9.164	0.849	A**	33399	9.065	0.922	127	9.223	0.622	80	9.152	0.865
Some College													
Earnings	384	14265	9847	G*	36147	13571	10391	170	14299	6099	150	12050	10162
Ln Earnings	384	9.248	0.962	A** G**	36147	9.168	0.977	170	9.447	0.568	150	8.977	1.021
Bachelor's +													
Earnings	127	23976	20928		21451	21812	15844	78	25054	9903	72	21850	12982
Ln Earnings	127	9.684	1.057	A**	21451	9.692	0.922	78	10.020	0.531	72	9.810	0.655

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance (two-tailed t-test): * $p \le .05$, ** $p \le .01$, *** $p \le .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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TABLE 11: Earnings of White, Non-Hispanic Women by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Marital Status													
Single													
Earnings	172	14527	9823		23465	13470	11701	148	13143	7983	106	12039	11254
Ln Earnings	172	9.299	0.854	N** G**	23465	9.120	0.996	148	9.284	0.698	106	9.004	0.937
Married													
Earnings	454	15142	12367	A**	56377	15060	11944	182	17697	8767	160	16048	11100
Ln Earnings	454	9.253	1.029	A***	56377	9.275	0.979	182	9.636	0.608	160	9.369	0.920
Divorced[1]													
Earnings	164	15841	14804		11155	16573	12815	45	15606	6114	36	14681	10246
Ln Earnings	164	9.375	0.835	A*	11155	9.425	0.882	45	9.580	0.402	36	9.211	1.119
Children													
0													
Earnings	340	16466	11467	A*	38620	15646	12689	244	14647	8266	167	14425	11970
Ln Earnings	340	9.465	0.790	N*** G**	38620	9.313	0.948	244	9.415	0.658	167	9.235	0.894
1 - 2													
Earnings	380	14208	12568	A**	40342	14810	11712	114	17276	8536	110	14805	10244
Ln Earnings	380	9.199	0.967	A***	40342	9.270	0.960	114	9.612	0.614	110	9.234	1.041
3 +													
Earnings	70	13909	15309		12035	12322	10451	17	19116	8017	25	13392	9847
Ln Earnings	70	8.911	1.375	A***	12035	9.008	1.076	17	9.757	0.509	25	9.087	1.076

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

TABLE 12: Earnings of White, Non-Hispanic Women by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Work Status													
Part time/year													
Earnings	338	9367	10792	A*	42852	9690	9579	98	11540	8298	148	8675	9220
Ln Earnings	338	8.682	1.067	A***	42852	8.727	1.068	98	9.046	0.886	148	8.634	0.979
FTYR													
Earnings	452	19480	11784	A**	48145	19415	12136	277	17102	8008	154	20054	10007
Ln Earnings	452	9.742	0.515	A**	48145	9.723	0.566	277	9.648	0.441	154	9.788	0.496

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance (two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

TABLE 13: Earnings of White, Non-Hispanic Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
% Veteran													
<14													
Earnings	126	15413	10221		21959	16750	14113	80	15023	7089	58	13940	12491
Ln Earnings	126	9.296	1.048	A*	21959	9.362	0.992	80	9.510	0.471	58	9.192	0.892
14 ≤ % < 17													
Earnings	470	15225	12310		52487	14503	11378	218	15735	8855	187	15240	11528
Ln Earnings	470	9.303	0.941	A**	52487	9.240	0.966	218	9.474	0.706	187	9.253	1.009
≥ 17													
Earnings	194	14812	13937		16551	13351	10648	77	16053	8571	57	12523	8059
Ln Earnings	194	9.247	0.931	A**	16551	9.153	0.976	77	9.518	0.633	57	9.152	0.886
% Active Duty													
< 1													
Earnings	517	14650	11760		74316	14651	11894	64	14239	6077	225	14355	11161
Ln Earnings	517	9.265	0.936	A*	74316	9.243	0.972	64	9.447	0.537	225	9.242	0.900
1 ≤ % < 5													
Earnings	167	16406	11830		12384	16107	13018	143	16235	9604	55	14935	11237
Ln Earnings	167	9.371	0.996		12384	9.330	0.992	143	9.505	0.675	55	9.156	1.180
≥ 5													
Earnings	106	15633	15928		4297	14357	11134	168	15687	8121	22	14595	11655
Ln Earnings	106	9.273	0.988	A*	4297	9.224	0.987	168	9.495	0.662	22	9.184	1.028

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

veterans experience any significant earnings difference from those with service only in the Guard and Reserve. This difference is about a 29% ($1874) veteran premium.

When the data were disaggregated by education, there were no significant differences between white, non-Hispanic veterans and non-serving individuals. However, those veterans with some college and those with at least a bachelor's degree again had an earnings penalty relative to their active duty counterparts, 18% and 29% ($1078), respectively. A significant veteran earnings advantage in comparison to those who have served only in the Guard or Reserve was also detected for those with some college.

With respect to marital status, single (never married) veterans hold a 20% earnings advantage over their non-serving counterparts, while those who are married or divorced, separated, or widowed have no significant earnings differences with non-serving women. An active duty advantage over those veterans of similar marital status is seen in those who are married and those who are divorced, separated, or widowed. Veterans have an earnings advantage over Guard/Reserve personnel in the single, never married category.

Veterans who have never had a child earn a 16% premium over their non-serving counterparts and a 26% premium over those with service only in the Guard or Reserve who have never had a child. No differences were detected between these two groups for veterans having 1-2 or 3 or more children. However, when comparing veterans with active duty personnel, there is a significant and substantial earnings penalty for veterans having 1-2 children [34% ($3068)] and those having 3 or more children (57%). Where increasing numbers of children have a negative impact on veterans' earnings, each

increasing category of children ever born shows an increase in ln(earnings) for active duty personnel. This pattern is likely to be the result of the extra money which military members earn for additional dependents and the likelihood that those with more children are likely to be older and of higher rank than those with fewer children.

Looking at the means by an individual's work status, that is, whether they did not work last year, worked only part time or part of the year, or worked full time, year round, no difference in earnings is found between veterans and those with no service. Those veterans who only worked part time or part of the year had a 30% ($2173) earnings penalty relative to active duty personnel with the same work status (e.g., those who were unemployed, but joined the military with less than 50 weeks remaining in 1989). However, when those women who worked full time and year round in 1989 are examined, we actually see a veteran's earnings advantage of 10% ($2378) relative to active duty personnel.

The military characteristics of the local labor markets (i.e., percent of labor force that is veteran and percent of labor force that is on active duty) provide another way for the data to be disaggregated. No differences are found between the earnings of veterans and non-serving individuals or Guard/Reserve personnel on any category of these variables. Veterans, however, receive an earnings penalty relative to active duty personnel across all categories of the percentage of labor force that is veteran and all but the middle category of the percentage of the labor force that is on active duty.

What is more interesting, however, are the trends across the categories of these variables within the veteran and non-serving groups (the trends noted within one military status category between different concentrations of veterans and active duty personnel

have not been tested for statistical significance). While the mean earnings of white, non-Hispanic veterans appears to drop only slightly across the three levels of the percentage of the labor force that is veteran, the decrease in earnings for non-serving individuals is much more drastic. The trends are somewhat different when the data are disaggregated by the percentage of the labor force that is on active duty. In the veteran group, earnings rise from the lowest to the middle category and then fall in the category with the highest concentration of active duty personnel in the labor force. Similarly, within the non-serving individual category, earnings rise from the lowest to the middle category and then fall from the middle to the highest category.

<div align="center">Earnings of African-American Women</div>

<div align="center">(TABLES 14-17)</div>

Even when the data are disaggregated by age, African-American veterans (unlike white, Non-Hispanic veterans) do not differ significantly from those with no service in terms of their earnings. However, in the middle and upper age groups, veterans experience an earnings penalty relative to active duty personnel of 26% ($2884) and 34%, respectively.

Within educational categories, no difference in earnings proved to be significant. However, this is not true with respect to marital status. African-American women veterans who were single, never married, earned a 46% premium over similar non-serving individuals and a 63% ($5381) premium over similar women on active duty. Married women veterans have a 26% earnings disadvantage relative to their active duty counterparts. Looking at the other familial variable by which I disaggregated data in this section, the number of children ever born, the only significant difference that is present is

TABLE 14: Earnings of African-American Women by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Age													
≤ 25 yrs													
Earnings	34	10689	5028		2435	9086	7073	94	9899	4804	31	9116	8361
Ln Earnings	34	9.074	0.838		2435	8.735	1.026	94	8.920	1.183	31	8.781	0.856
26 - 32 yrs													
Earnings	78	14676	7437	A*	3297	14379	9736	47	17559	7840	30	16654	8165
Ln Earnings	78	9.385	0.818	A**	3297	9.308	0.871	47	9.689	0.412	30	9.512	0.792
≥ 33 yrs													
Earnings	38	16264	11034	G**	3647	17779	11871	8	19528	6093	26	23504	9594
Ln Earnings	38	9.410	0.939	A*	3647	9.536	0.823	8	9.828	0.358	26	9.846	0.951
Education													
High School													
Earnings	46	11421	5928		3827	11418	8159	50	10461	5807	16	11886	10201
Ln Earnings	46	9.070	0.994		3827	9.045	0.911	50	8.873	1.440	16	8.930	1.075
Some College													
Earnings	81	13974	6913		3930	14012	9911	79	12458	5201	57	15215	9955
Ln Earnings	81	9.350	0.775		3930	9.233	0.958	79	9.284	0.722	57	9.304	0.960
Bachelor's +													
Earnings	23	20385	12709		1622	21953	13389	20	20241	10999	14	23991	8627
Ln Earnings	23	9.723	0.699		1622	9.764	0.830	20	9.772	0.562	14	10.025	0.366

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 15: Earnings of African-American Women by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Marital Status													
Single													
Earnings	40	15437	8608	A***	4035	12530	10083	70	10056	5623	51	13156	9581
Ln Earnings	40	9.443	0.798	N* A**	4035	9.064	1.018	70	8.957	0.923	51	9.103	1.012
Married													
Earnings	71	13376	7014	N** G*	3599	15650	10806	57	15530	7933	21	19614	10537
Ln Earnings	71	9.240	0.947	A*	3599	9.381	0.880	57	9.540	0.475	21	9.644	0.869
Divorced[1]													
Earnings	39	14333	9938	G*	1745	15752	10847	22	14678	5839	15	20698	10175
Ln Earnings	39	9.343	0.750		1745	9.402	0.859	22	9.173	1.934	15	9.785	0.651
Children													
0													
Earnings	51	14322	7990	A*	3041	14039	11263	84	11015	6082	34	12597	11042
Ln Earnings	51	9.358	0.806		3041	9.178	1.013	84	9.078	0.858	34	8.989	1.074
1 - 2													
Earnings	80	13690	8682	G**	4581	14908	10713	57	15346	8083	44	18635	9690
Ln Earnings	80	9.254	0.928	G*	4581	9.315	0.912	57	9.365	1.306	44	9.604	0.823
3 +													
Earnings	19	15817	7375		1757	13310	9038	8	14011	3242	9	16123	8045
Ln Earnings	19	9.501	0.682		1757	9.194	0.933	8	9.524	0.236	9	9.484	0.817

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

TABLE 16: Earnings of African-American Women by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Work Status													
Part time/year													
Earnings	57	10200	7664		4064	9714	9424	47	8481	6778	38	8790	8028
Ln Earnings	57	8.822	1.116		4064	8.711	1.110	47	8.513	1.571	38	8.648	1.006
FTYR													
Earnings	93	16610	7700	G***	5315	17853	10126	102	14838	6322	49	21619	8380
Ln Earnings	93	9.627	0.434	G***	5315	9.658	0.518	102	9.534	0.366	49	9.897	0.439

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \le .05$, ** $p \le .01$, *** $p \le .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989
FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

TABLE 17: Earnings of African-American Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
% Veteran													
< 14													
Earnings	52	13703	7601		4109	14474	11108	17	10446	5223	25	15924	10383
Ln Earnings	52	9.292	0.885		4109	9.248	0.965	17	9.063	0.748	25	9.385	0.930
14 ≤ % < 17													
Earnings	69	13476	7578		4521	14443	10078	91	13460	7830	52	15472	10715
Ln Earnings	69	9.235	0.935		4521	9.266	0.945	91	9.281	0.848	52	9.267	1.028
≥ 17													
Earnings	29	16683	10551		749	12817	11003	41	12429	5824	10	19070	8982
Ln Earnings	29	9.578	0.538	N***	749	9.138	0.906	41	9.119	1.465	10	9.707	0.646
% Active Duty													
< 1													
Earnings	73	13905	7901		6497	14557	11026	15	14825	7390	49	16995	10063
Ln Earnings	73	9.281	0.947		6497	9.263	0.947	15	9.386	0.851	49	9.466	0.900
1 ≤ % < 5													
Earnings	40	15185	9464		2048	14523	9774	37	12967	9922	29	15562	11335
Ln Earnings	40	9.446	0.677		2048	9.277	0.954	37	9.101	1.088	29	9.235	1.090
≥ 5													
Earnings	37	13613	7730		834	12054	9057	97	12473	5655	9	12140	8881
Ln Earnings	37	9.266	0.862		834	9.062	0.962	97	9.227	1.056	9	9.102	0.888

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

between veterans who have had 1 or 2 children and similar Guard/Reserve personnel. In this case, veterans suffer a 30% ($4944) earnings penalty.

Disaggregating the data by work status produced no statistical difference in earnings between veterans and those with no military service across all categories. The only difference that was significant was between veteran full-time, year-round workers and their counterparts with service only in the Guard or Reserve. Veterans received a 24% ($5008) penalty.

The military composition of an individual's LMA labor force appears to operate somewhat differently for African Americans than it did for white, non-Hispanics (as with white, non-Hispanics, though, the trends noted within one military status category between different concentrations of veterans and active duty personnel have not been tested for statistical significance). While African-American veterans appear to experience a slight decline in earnings moving from labor markets with the lowest concentration of veterans in the labor force to those labor markets in the middle category, those living in areas with the highest concentrations of veterans in the labor force seem to experience an earnings premium over those living in a labor market that falls into the middle category. In these areas of high veteran concentration, veterans experience a 55% earnings premium over non-serving individuals living in similar areas. The pattern for non-serving individuals involves a slight decrease in earnings from the areas of the lowest veteran concentration to the middle category and a more significant drop when moving from the middle category to areas of highest veteran concentration.

The trends when the data are disaggregated by the percentage of LMA labor force that are on active duty are similar to those observed for white, non-Hispanic

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veteran and non-serving women. That is, a slight rise in earnings moving from the low

to the middle category and then a drop in earnings when moving to the areas with the

highest concentrations of active duty personnel in the labor force. There were no

significant differences between veterans' earnings and those of any other military status

group within these categories.

Earnings of White, Hispanic Women and Women of Other Race/Ethnicity

(TABLES 18-21 and 22-25)

When the data were disaggregated in a similar manner for these two racial/ethnic

groups, none of the comparisons, judging by the natural logarithm of earnings, turned

out to be significant. This was likely because of the small number of veterans in these

two groups.

TABLE 18: Earnings of White, Hispanic Women by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Age							
≤ 25 yrs							
Earnings	11	12111	6456		1282	10176	7905
Ln Earnings	11	9.277	0.523		1282	8.908	0.912
26 - 32 yrs							
Earnings	17	13993	7323		1510	16079	10467
Ln Earnings	17	9.321	0.890		1510	9.421	0.863
≥ 33 yrs							
Earnings	7	16130	9672		1502	18466	14919
Ln Earnings	7	9.444	0.855		1502	9.515	0.913
Education							
High School							
Earnings	12	8832	6457		1592	12029	8311
Ln Earnings	12	8.782	0.954		1592	9.108	0.894
Some College							
Earnings	16	15840	6683		1821	14406	10239
Ln Earnings	16	9.593	0.400		1821	9.273	0.914
Bachelor's +							
Earnings	7	17798	7105		881	22336	17395
Ln Earnings	7	9.678	0.570		881	9.708	0.912

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 19: Earnings of White, Hispanic Women by Marital Status and Children Ever Born

		Veteran		Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Marital Status							
Single							
Earnings	8	14333	8086		1460	13276	11175
Ln Earnings	8	9.203	1.244		1460	9.146	0.947
Married							
Earnings	20	13707	6764		2261	15844	12571
Ln Earnings	20	9.407	0.508		2261	9.351	0.934
Divorced[1]							
Earnings	7	13600	9801		573	17199	11900
Ln Earnings	7	9.265	0.807		573	9.498	0.821
Children							
0							
Earnings	15	13703	7362		2055	14930	11919
Ln Earnings	15	9.254	0.985		2055	9.291	0.898
1 - 2							
Earnings	17	14263	8388		1706	15778	11885
Ln Earnings	17	9.392	0.618		1706	9.354	0.942
3 +							
Earnings	3	12000	2000		533	14002	13355
Ln Earnings	3	9.383	0.168		533	9.167	1.013

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

TABLE 20: Earnings of White, Hispanic Women by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Work Status							
Part time/year							
Earnings	15	7813	4263	N*	1961	10403	10960
Ln Earnings	15	8.758	0.804		1961	8.806	1.047
FTYR							
Earnings	20	18341	6076		2333	19144	11569
Ln Earnings	20	9.763	0.341		2333	9.717	0.546

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

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TABLE 21: Earnings of White, Hispanic Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
% Veteran							
< 14							
Earnings	9	14634	9302		1805	16327	13379
Ln Earnings	9	9.210	1.210		1805	9.368	0.940
14 ≤ % < 17							
Earnings	18	12726	6309		1869	14614	11236
Ln Earnings	18	9.324	0.548		1869	9.280	0.905
≥ 17							
Earnings	8	15403	8364		620	13352	10262
Ln Earnings	8	9.486	0.629		620	9.166	0.973
% Active Duty							
< 1							
Earnings	22	12573	7026		3299	15075	12159
Ln Earnings	22	9.206	0.854		3299	9.298	0.927
1 ≤ % < 5							
Earnings	8	14529	8190		795	15560	12419
Ln Earnings	8	9.443	0.575		795	9.307	0.968
≥ 5							
Earnings	5	18232	8130		200	14799	9724
Ln Earnings	5	9.711	0.533		200	9.328	0.868

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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TABLE 22: Earnings of Women of Other Race/Ethnicity by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Age							
≤ 25 yrs							
Earnings	12	10314	8192		1516	9589	8923
Ln Earnings	12	9.017	0.679		1516	8.776	1.009
26 - 32 yrs							
Earnings	24	16573	11910		1678	15811	11277
Ln Earnings	24	9.181	1.407		1678	9.350	0.942
≥ 33 yrs							
Earnings	14	18016	14137		1824	18936	15608
Ln Earnings	14	9.374	1.118		1824	9.516	0.967
Education							
High School							
Earnings	17	10901	7981		1729	11332	8363
Ln Earnings	17	8.983	0.890		1729	9.004	0.963
Some College							
Earnings	22	12700	8979		2078	13612	10665
Ln Earnings	22	8.948	1.337		2078	9.150	1.028
Bachelor's +							
Earnings	11	28094	14313		1211	22897	17996
Ln Earnings	11	10.018	0.890		1211	9.720	0.923

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 23: Earnings of Women of Other Race/Ethnicity by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)		Non-Serving		
	N	Mean	Std Dev			N	Mean	Std Dev
Marital Status								
Single								
Earnings	13	15456	11079			1685	12532	11845
Ln Earnings	13	9.251	1.090			1685	9.001	1.063
Married								
Earnings	28	15575	13264			2778	16386	13772
Ln Earnings	28	9.193	1.130			2778	9.349	0.993
Divorced[1]								
Earnings	9	15194	10085			555	16163	11434
Ln Earnings	9	9.124	1.535			555	9.395	0.890
Children								
0								
Earnings	15	16028	11756			2174	14729	12962
Ln Earnings	15	9.276	1.081			2174	9.199	1.021
1 - 2								
Earnings	25	15171	11693			2064	15820	12968
Ln Earnings	25	9.212	1.184			2064	9.308	0.999
3 +								
Earnings	10	15405	14198			780	14017	13281
Ln Earnings	10	9.034	1.387			780	9.155	1.062

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

TABLE 24: Earnings of Women of Other Race/Ethnicity by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Work Status							
Part time/year							
Earnings	26	8014	7507		2530	9841	10809
Ln Earnings	26	8.473	1.188		2530	8.712	1.098
FTYR							
Earnings	24	23558	10660		2488	20381	12947
Ln Earnings	24	9.979	0.423		2488	9.771	0.554

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

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TABLE 25: Earnings of Women of Other Race/Ethnicity by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)		Non-Serving		
	N	Mean	Std Dev			N	Mean	Std Dev
% Veteran								
<14								
Earnings	15	20388	15249			2394	16978	13009
Ln Earnings	15	9.556	1.025			2394	9.401	0.958
14 ≤ % <17								
Earnings	21	14608	10446			1900	13406	11616
Ln Earnings	21	9.230	0.995			1900	9.113	1.028
≥17								
Earnings	14	11513	8779			724	13108	15500
Ln Earnings	14	8.759	1.481			724	9.020	1.108
% Active Duty								
<1								
Earnings	27	13965	10982			3397	14906	12869
Ln Earnings	27	9.034	1.273			3397	9.222	1.032
1 ≤ % <5								
Earnings	13	16072	11516			1181	15885	14064
Ln Earnings	13	9.332	1.083			1181	9.293	1.000
≥5								
Earnings	10	18776	15404			440	14116	11159
Ln Earnings	10	9.456	1.047			440	9.206	0.974

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Family Income of Women by Race/Ethnicity

Looking at family income when the data are disaggregated by race/ethnicity and military status (TABLE 26), white, non-Hispanic women veterans have an overall income disadvantage of about 15% ($6227) relative to similar non-serving individuals (note that, overall, a significant earnings differential was not found between these groups) and a 14% income disadvantage relative to active duty personnel (4% less than the earnings disadvantage of white, non-Hispanic women veterans relative to similar active duty women). African-American women veterans, while not differing significantly from their non-serving counterparts in terms of their family income (as they did not differ in terms of earnings), were at a disadvantage (17%) relative to similar women on active duty. Those classified in the "other" racial/ethnic category also have a family income disadvantage relative to active duty personnel of about 30% (a group which they did not differ significantly from in terms of earnings). White, Hispanic veterans did not differ significantly from their counterparts in the other military status categories in terms of their family income.

Again, for the purpose of comparison, I will present the results of similar family income comparisons made for male veterans. White, non-Hispanic male veterans were at a significant disadvantage of about 15% ($6808) compared to similar non-serving men, showed an 8% ($4871) advantage over similar active duty personnel, and were at a 13% ($4740) disadvantage relative to their counterparts with service only in the Guard or Reserve. African-American and white, Hispanic male veterans did not differ significantly from their non-serving, active duty, or Guard/Reserve counterparts in terms of their family income. Those men classified into the "other" category had a 8% ($4871) family

TABLE 26: Family Income of Women by Race/Ethnicity

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard/Reserves		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
White, Non-Hispanic													
F Income	1182	32706	24348	N***	126205	38933	29636	269	34238	19425	411	35480	26464
Ln F Income	1182	10.128	0.798	N***, A***	126205	10.291	0.843	269	10.283	0.578	411	10.165	0.899
African American													
F Income	235	27111	23740		13939	27722	23095	80	28658	22210	117	27891	20305
Ln F Income	235	9.891	0.878	A*	13939	9.825	1.063	80	10.076	0.579	117	9.949	0.870
White, Hispanic													
F Income	53	34793	21367		6184	38324	31964	10	34306	20546	29	40288	19685
Ln F Income	53	10.233	0.740		6184	10.238	0.901	10	10.315	0.508	29	10.388	0.817
Other													
F Income	82	32257	25326		8103	36874	31728	14	34890	13716	27	32942	25112
Ln F Income	82	10.033	1.018	A*	8103	10.154	0.960	14	10.391	0.383	27	9.972	1.158

Significantly different from: N - non-serving individuals, A - active duty Personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance (two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

income disadvantage relative to their non-serving counterparts and a 13% ($6935) advantage compared to similar active duty personnel.

In order to examine family income differences more fully, I examined each racial/ethnic group of women separately, comparing the mean income of women veterans with other military status groups within categories for age, education, marital status, number of children ever born, work status, percentage of LMA labor force that is veteran, and percentage of LMA labor force that is on active duty.

Family Income of White, Non-Hispanic Women

(TABLES 27-30)

No matter how the data were disaggregated, the veteran family income disadvantage relative to those with no military service was almost always significant, ranging from 8% ($5680) (women who have never had a child) to 21% ($8965) (women who did not work in 1989). The only exceptions to this finding were that the youngest group of veterans (who have an earnings advantage over their non-serving counterparts), divorced, widowed, or separated veterans, and those veterans living in areas with the highest concentrations of active duty personnel did not differ significantly from similar non-serving individuals on the transformed measure of family income. However, looking at the mean of the non-transformed variable for the youngest veterans and those veterans living in areas with the highest concentrations of active duty personnel, a significant veteran disadvantage can still be seen. These disadvantages contrast with the relatively few (and mostly favorable) differences found in the earnings comparisons between white, non-Hispanic women veterans and their non-serving counterparts.

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TABLE 27: Family Income of White, Non-Hispanic Women by Age and Education

	Veteran				Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev	Tests of Significance (see below)	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Age													
≤ 25 yrs													
F Income	285	28832	21767	N***	32842	34541	30236	114	29062	16432	139	29325	28631
Ln F Income	285	9.988	0.802		32842	10.065	1.009	114	10.125	0.562	139	9.851	1.022
26 - 32 yrs													
F Income	611	31895	21431	N***	43299	36976	26390	101	34487	17732	141	34644	18712
Ln F Income	611	10.132	0.750	N*** A**	43299	10.282	0.758	101	10.316	0.541	141	10.250	0.741
≥ 33 yrs													
F Income	286	38299	30880	N**	50064	43508	31226	54	44703	23869	131	42912	29403
Ln F Income	286	10.259	0.872	N*** A**	50064	10.447	0.755	54	10.557	0.578	131	10.407	0.824
Education													
High School													
F Income	447	28070	18451	N***	50779	32702	22824	73	31118	18000	120	31922	23254
Ln F Income	447	10.005	0.753	N*** A*	50779	10.150	0.791	73	10.174	0.606	120	10.064	0.899
Some College													
F Income	566	32455	22726	N***	49006	38627	28679	130	31139	16465	204	32830	23453
Ln F Income	566	10.127	0.791	N***	49006	10.272	0.880	130	10.217	0.515	204	10.072	0.935
Bachelor's +													
F Income	169	45811	36005		26420	51480	37900	66	43796	23150	87	46604	33656
Ln F Income	169	10.455	0.850	N*	26420	10.597	0.791	66	10.535	0.601	87	10.523	0.716

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 28: Family Income of White, Non-Hispanic Women by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Marital Status													
Single													
F Income	223	30543	25744	N***	28748	36754	33607	69	29918	18309	133	30570	25532
Ln F Income	223	9.973	0.930		28748	10.076	1.076	69	10.130	0.614	133	9.895	1.073
Married													
F Income	735	36415	23794	N*** G*	83122	42458	28463	167	38788	19575	230	41286	26723
Ln F Income	735	10.318	0.648	N*** A** G**	83122	10.469	0.649	167	10.441	0.515	230	10.447	0.634
Divorced[1]													
F Income	224	22690	21575		14335	22869	20741	33	20247	10481	48	21268	18965
Ln F Income	224	9.661	0.879		14335	9.687	0.925	33	9.807	0.460	48	9.565	0.952
Children													
0													
F Income	429	34433	24725	N***	45874	40113	32560	156	33179	18541	197	35178	27526
Ln F Income	429	10.187	0.793	N*	45874	10.265	0.941	156	10.263	0.559	197	10.123	0.953
1 - 2													
F Income	614	32231	24867	N***	59631	38510	27815	96	35938	21227	168	35906	26757
Ln F Income	614	10.102	0.817	N*** A**	59631	10.314	0.780	96	10.307	0.629	168	10.186	0.884
3 +													
F Income	139	29477	20237	N***	20700	37540	27767	17	34360	16924	46	35217	20555
Ln F Income	139	10.064	0.723	N** A*	20700	10.282	0.788	17	10.342	0.462	46	10.269	0.703

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

TABLE 29: Family Income of White, Non-Hispanic Women by Work Status

	Veteran			Tests of Significance (see below)		Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev			N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Work Status														
Non-Workers														
F Income	160	25923	20085		N***	20664	34888	31868	3	29351	13961	37	38467	39425
Ln F Income	160	9.867	0.842		N***	20664	10.097	0.969	3	10.187	0.585	37	10.100	1.051
Part time/year														
F Income	526	28944	22682		N***	55763	37267	29549	56	31498	20783	211	29578	23575
Ln F Income	526	9.988	0.821		N***	55763	10.205	0.921	56	10.130	0.715	211	9.931	0.972
FTYR														
F Income	496	38885	25903	A*	N**	49778	42479	28365	210	35039	19113	163	42443	24705
Ln F Income	496	10.361	0.694	G*	N***	49778	10.468	0.640	210	10.326	0.532	163	10.483	0.634

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Non-Worker - worked either 0 weeks in 1989 or usually worked 0 hours per week in 1989

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

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TABLE 30: Family Income of White, Non-Hispanic Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
% Veteran													
<14													
F Income	196	35905	24394	N***	30481	43986	34878	57	34877	19042	73	36930	32055
Ln F Income	196	10.240	0.768	N**	30481	10.390	0.886	57	10.308	0.572	73	10.075	1.087
14 ≤ % < 17													
F Income	673	33186	26248	N***	71911	38194	28190	155	35041	21071	258	36375	26285
Ln F Income	673	10.122	0.829	N*** A**	71911	10.283	0.827	155	10.289	0.612	258	10.222	0.853
≥ 17													
F Income	313	29672	19287	N***	23813	34700	25410	57	31418	14556	80	31272	20690
Ln F Income	313	10.071	0.743	N** A*	23813	10.188	0.822	57	10.246	0.492	80	10.063	0.851
% Active Duty													
<1													
F Income	736	32473	23818	N*** A* G*	102689	38687	29425	53	38562	19116	303	36594	28630
Ln F Income	736	10.114	0.804	N*** A***	102689	10.284	0.846	53	10.433	0.528	303	10.166	0.947
1 ≤ % < 5													
F Income	265	33769	24413	N***	17239	41166	31268	105	34961	21575	75	33053	19785
Ln F Income	265	10.167	0.814	N***	17239	10.350	0.827	105	10.275	0.638	75	10.177	0.774
≥ 5													
F Income	181	32098	26393	N*	6277	36825	28097	111	31490	17009	33	30769	16845
Ln F Income	181	10.128	0.754		6277	10.239	0.833	111	10.220	0.532	33	10.134	0.718

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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Although the patterns are not nearly as consistent, white, non-Hispanic women veterans also differed from active duty and Guard personnel in terms of family income. With respect to age, all but the youngest veterans experienced a family income penalty relative to their active duty counterparts (compared to the earlier finding that all age groups of veterans suffered an earnings penalty). In addition, veterans with only a high school diploma or GED were also at a disadvantage relative to those on active duty, even though earlier analysis of earnings differences did not show this group to be disadvantaged. Those veterans who were married also suffered a family income penalty of 12% relative to both active duty and Guard/Reserve personnel. Additionally, those women veterans who had one or two children had a 19% family income disadvantage in comparison to similar active duty personnel while those with 3 or more children had a 24% disadvantage (smaller disadvantages than were detected in the earnings comparisons). Full-time, year-round veteran workers had an 11% family income penalty in comparison to their counterparts with service in the Guard or Reserve only. Overall, it is interesting to note that every significant difference in every category across all military status groups resulted in a family income penalty for white, non-Hispanic veterans.

The trends across the military characteristics of the LMA labor forces appear to show patterns for veterans and those with no service similar to those reported for earnings (again, the trends noted within one military status category between different concentrations of veterans and active duty personnel have not been tested for statistical significance). Going from the category containing the LMAs with the smallest proportion of veterans in the labor force to that containing the LMAs with the largest,

the family income of veterans and non-serving individuals. When considering the percentage of the LMA labor force that is on active duty, we again find an inverted 'V' pattern. When comparing those living in areas in the middle range of active duty concentration to those living in areas of low active duty concentration, there is an advantage for veterans and for non-serving individuals living in areas in the middle range. Comparing those living with the highest concentrations of active duty personnel in the labor force to those living in areas that fall into the middle range, we find that veterans in the areas of high concentration suffer an income penalty and non-serving women are at a disadvantage relative to those living in areas that fall within the middle range of active duty concentrations.

Family Income of African-American Women

(TABLES 31-34)

As with earnings, veterans in this racial/ethnic group experienced few significant differences in family income from like individuals in other military status groups compared to the number that white, non-Hispanic veterans experienced. For the three age categories, marital status, and work status, only the difference between 26-32 year old veterans and their active duty counterparts reached statistical significance (with a 23% family income penalty for veterans, similar to the 26% earnings penalty veterans in this age group experienced). However, looking at education, those veterans who are in the lowest category, having only their high school diploma or GED, had a 27% family income advantage over similar non-serving individuals. Results of earlier analysis show that veterans in this educational category were not advantaged in terms of earnings relative to similar non-serving women. Those veterans with some college were

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TABLE 31: Family Income of African-American Women by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Age													
≤ 25 yrs													
F Income	56	25963	29247		4341	26041	23218	35	29016	27357	49	25071	19192
Ln F Income	56	9.846	0.785		4341	9.716	1.118	35	10.040	0.638	49	9.867	0.771
26 - 32 yrs													
F Income	121	25673	16959		4728	26465	22295	37	28528	18182	38	26693	15432
Ln F Income	121	9.847	0.928	A*	4728	9.779	1.062	37	10.105	0.539	38	9.939	0.869
≥ 33 yrs													
F Income	58	31217	29325		4870	30441	23501	8	27693	15162	30	34014	26108
Ln F Income	58	10.027	0.854		4870	9.968	0.996	8	10.102	0.541	30	10.094	1.022
Education													
High School													
F Income	86	27042	25309		6454	22412	19171	27	21386	10754	28	23668	20901
Ln F Income	86	9.836	0.963	N*	6454	9.595	1.079	27	9.852	0.500	28	9.702	0.988
Some College													
F Income	122	26042	23275		5602	29196	23460	42	28236	22769	74	28421	19085
Ln F Income	122	9.872	0.835	A*	5602	9.908	1.021	42	10.093	0.504	74	9.997	0.829
Bachelor's +													
F Income	27	32158	20620		1883	41534	27534	11	48116	30176	15	33158	24647
Ln F Income	27	10.153	0.759		1883	10.369	0.875	11	10.563	0.746	15	10.173	0.783

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \le .05$, ** $p \le .01$, *** $p \le .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 32: Family Income of African-American Women by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Marital Status													
Single													
F Income	65	27194	29632		6529	25119	23654	18	22056	21030	67	26325	20899
Ln F Income	65	9.796	0.991		6529	9.646	1.150	18	9.777	0.598	67	9.850	0.944
Married													
F Income	112	30590	21812	N*	4951	35355	22418	48	33976	24086	31	33792	19376
Ln F Income	112	10.137	0.660		4951	10.245	0.788	48	10.273	0.546	31	10.272	0.578
Divorced[1]													
F Income	58	20298	18173		2459	19264	17877	14	18911	7395	19	23785	18516
Ln F Income	58	9.525	0.973		2459	9.456	1.032	14	9.784	0.364	19	9.770	0.893
Children													
0													
F Income	67	23748	15870	N***	4233	32105	25837	29	31188	29704	48	28767	21374
Ln F Income	67	9.813	0.827		4233	10.016	0.991	29	10.111	0.626	48	9.971	0.900
1 - 2													
F Income	131	30297	28338		6773	27087	22420	45	28239	17332	56	28155	20408
Ln F Income	131	10.002	0.846	N**	6773	9.799	1.073	45	10.089	0.567	56	9.995	0.776
3 +													
F Income	37	21918	14694		2933	22860	18941	6	19571	8453	13	23524	16225
Ln F Income	37	9.641	1.025		2933	9.611	1.092	6	9.809	0.416	13	9.667	1.131

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

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TABLE 33: Family Income of African-American Women by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
Work Status													
Non-Workers													
F Income	36	22285	21757		2680	17330	18835	0	.	.	13	19575	21272
Ln F Income	36	9.426	1.226		2680	9.162	1.274	0	.	.	13	9.456	0.958
Part time/year													
F Income	97	23478	22415		5667	25525	22047	14	25611	14417	54	24004	20170
Ln F Income	97	9.769	0.812		5667	9.719	1.081	14	9.975	0.648	54	9.747	0.961
FTYR													
F Income	102	32268	24826		5592	34928	23633	66	29304	23570	50	34252	18679
Ln F Income	102	10.171	0.683		5592	10.251	0.670	66	10.098	0.566	50	10.296	0.579

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \le .05$, ** $p \le .01$, *** $p \le .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Non-Worker - worked either 0 weeks in 1989 or usually worked 0 hours per week in 1989

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

TABLE 34: Family Income of African-American Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving			Active Duty			Guard		
	N	Mean	Std Dev		N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev
% Veteran													
<14													
F Income	75	30569	34491		6182	28108	24386	9	37065	44750	34	29090	23704
Ln F Income	75	9.886	0.993		6182	9.828	1.074	9	10.187	0.737	34	9.912	1.016
14 ≤ % <17													
F Income	116	24731	16609	N*	6581	28015	22210	49	29221	18375	67	26352	18353
Ln F Income	116	9.837	0.875	A*	6581	9.853	1.038	49	10.128	0.547	67	9.928	0.803
≥ 17													
F Income	44	27489	15670		1176	24052	20536	22	23963	16339	16	31790	20980
Ln F Income	44	10.044	0.645	N***	1176	9.652	1.120	22	9.916	0.574	16	10.115	0.841
% Active Duty													
<1													
F Income	117	28164	29537		9728	27898	23786	12	41952	37680	67	30673	23341
Ln F Income	117	9.857	0.942	A*	9728	9.817	1.076	12	10.425	0.625	67	9.954	1.041
1 ≤ % < 5													
F Income	53	29889	16402		2873	28722	22639	15	31472	20682	34	25449	16658
Ln F Income	53	10.106	0.750		2873	9.898	1.021	15	10.181	0.614	34	9.983	0.585
≥ 5													
F Income	65	22950	15321		1338	24289	18139	53	24851	16615	16	21431	9389
Ln F Income	65	9.778	0.836		1338	9.726	1.042	53	9.967	0.530	16	9.853	0.562

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only
At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001
In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

disadvantaged by about 20% relative to their active duty counterparts. In addition, those women veterans who have had one or two children received a 23% family income premium relative to similar individuals with no service.

When the data are disaggregated by the military makeup of LMA labor forces, trends for family income are similar to those observed with the earnings of African Americans (again, the trends noted within one military status category between different concentrations of veterans and active duty personnel have not been tested for statistical significance). That is, there is a slight drop in veteran family income from the areas of lowest veteran concentration to those in the middle category and then income rises again moving to areas of the highest concentrations of veterans. Non-serving individuals show a decline in family income with each increasing level of veteran concentration. When looking at the concentration of active duty personnel in a labor market, an inverted 'V' pattern emerges again with the middle level of active duty concentration equating to the highest mean family incomes for both veterans and non-serving individuals.

Family Income of White, Hispanic Women and Women of Other Race/Ethnicity

(TABLES 35-38 and 39-42)

When the data were disaggregated in a similar manner for these two racial/ethnic groups, only two of the comparisons turned out to be significant (judging by the natural logarithm of family income). The non-significance of results was largely because of the small number of veterans in these two groups. White, Hispanic women veterans with one or two children had a 25% family income advantage over similar women with no military service. Those women veterans in the "other" category who worked only part

TABLE 35: Family Income of White, Hispanic Women by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Age							
≤ 25 yrs							
F Income	18	37070	25175		1904	36473	34008
Ln F Income	18	10.266	0.775		1904	10.119	0.998
26 - 32 yrs							
F Income	25	33892	20669		2152	36981	28560
Ln F Income	25	10.215	0.747		2152	10.230	0.876
≥ 33 yrs							
F Income	10	32948	16888		2128	41338	33113
Ln F Income	10	10.220	0.735		2128	10.353	0.817
Education							
High School							
F Income	25	33221	25055		2601	32759	25749
Ln F Income	25	10.066	0.928		2601	10.088	0.906
Some College							
F Income	21	34481	18394		2489	39019	30541
Ln F Income	21	10.322	0.512		2489	10.282	0.860
Bachelor's +							
F Income	7	41344	16041		1094	49976	43229
Ln F Income	7	10.561	0.405		1094	10.493	0.916

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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TABLE 36: Family Income of White, Hispanic Women by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Marital Status							
Single							
F Income	10	30064	22504		1970	37770	34823
Ln F Income	10	9.990	0.915		1970	10.125	1.035
Married							
F Income	34	37934	18496		3467	41299	30894
Ln F Income	34	10.428	0.497		3467	10.400	0.750
Divorced[1]							
F Income	9	28185	29458		747	25979	25273
Ln F Income	9	9.768	1.059		747	9.782	0.963
Children							
0							
F Income	17	28993	21088	N*	2582	40577	34752
Ln F Income	17	9.971	0.863		2582	10.278	0.912
1 - 2							
F Income	27	39759	21307		2623	37571	30180
Ln F Income	27	10.463	0.517	N*	2623	10.240	0.884
3 +							
F Income	9	30853	20752		979	34401	28284
Ln F Income	9	10.039	0.915		979	10.128	0.911

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only
At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001
In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater
[1] Includes divorced, separated, and widowed individuals

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TABLE 37: Family Income of White, Hispanic Women by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Work Status							
Non-Workers							
F Income	6	34285	21602		1178	31222	31558
Ln F Income	6	10.199	0.856		1178	9.916	1.084
Part time/year							
F Income	26	33777	23768		2592	36750	30753
Ln F Income	26	10.131	0.866		2592	10.167	0.948
FTYR							
F Income	21	36197	18994		2414	43480	32602
Ln F Income	21	10.370	0.519		2414	10.471	0.658

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Non-Worker - worked either 0 weeks in 1989 or usually worked 0 hours per week in 1989

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

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TABLE 38: Family Income of White, Hispanic Women by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
% Veteran							
<14							
F Income	12	35609	19700		2643	41793	35340
Ln F Income	12	10.352	0.529		2643	10.314	0.920
14 ≤ % < 17							
F Income	25	29045	18224		2605	36386	29861
Ln F Income	25	10.021	0.807		2605	10.192	0.901
≥ 17							
F Income	16	43163	25228		936	33923	26081
Ln F Income	16	10.474	0.710		936	10.150	0.833
% Active Duty							
< 1							
F Income	35	34554	23816		4739	38469	32324
Ln F Income	35	10.166	0.839		4739	10.238	0.910
1 ≤ % < 5							
F Income	10	30825	13030		1167	38475	30769
Ln F Income	10	10.257	0.425		1167	10.246	0.884
≥ 5							
F Income	8	40800	18824		278	35222	30650
Ln F Income	8	10.497	0.561		278	10.200	0.823

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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TABLE 39: Family Income of Women of Other Race/Ethnicity by Age and Education

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Age							
≤ 25 yrs							
F Income	22	29196	17284		2615	33349	29832
Ln F Income	22	10.112	0.648		2615	10.009	1.027
26 - 32 yrs							
F Income	40	28502	24535		2751	34897	29021
Ln F Income	40	9.812	1.212		2751	10.113	0.942
≥ 33 yrs							
F Income	20	43135	31676		2737	42230	35210
Ln F Income	20	10.388	0.831		2737	10.334	0.879
Education							
High School							
F Income	29	25167	19996		3212	29721	24845
Ln F Income	29	9.686	1.279		3212	9.965	0.918
Some College							
F Income	39	30110	21165		3189	36615	28465
Ln F Income	39	10.096	0.692		3189	10.172	0.943
Bachelor's +							
F Income	14	52924	35210		1702	50860	42646
Ln F Income	14	10.573	0.966		1702	10.477	0.979

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

TABLE 40: Family Income of Women of Other Race/Ethnicity by Marital Status and Children Ever Born

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Marital Status							
Single							
F Income	21	28542	22153		2599	34647	32596
Ln F Income	21	9.958	0.864		2599	9.990	1.097
Married							
F Income	45	34714	25153		4673	40521	31920
Ln F Income	45	10.222	0.717		4673	10.335	0.810
Divorced[1]							
F Income	16	30224	30191		831	23332	22179
Ln F Income	16	9.599	1.666		831	9.647	1.002
Children							
0							
F Income	22	31608	21036		3098	39701	33579
Ln F Income	22	10.112	0.808		3098	10.209	1.013
1 - 2							
F Income	42	33497	25715		3539	36630	30452
Ln F Income	42	10.116	0.843		3539	10.181	0.891
3 +							
F Income	18	30158	30092		1466	31490	29971
Ln F Income	18	9.741	1.517		1466	9.974	0.984

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

[1] Includes divorced, separated, and widowed individuals

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TABLE 41: Family Income of Women of Other Race/Ethnicity by Work Status

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
Work Status							
Non-Workers							
F Income	13	37134	33210		2020	28816	28389
Ln F Income	13	10.159	0.922		2020	9.827	1.047
Part time/year							
F Income	41	25135	19698	N**	3448	35230	32522
Ln F Income	41	9.740	1.166	N*	3448	10.079	0.995
FTYR							
F Income	28	40422	26486		2635	45203	31175
Ln F Income	28	10.404	0.658		2635	10.502	0.698

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only

At the following levels of significance(two-tailed t-test): * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

Non-Worker - worked either 0 weeks in 1989 or usually worked 0 hours per week in 1989

Part time/year - worked from 1 - 49 weeks in 1989 or usually worked 1 - 34 hours per week in 1989

FTYR - worked 50 or more weeks in 1989 and usually worked 35 hours or more per week in 1989

TABLE 42: Family Income of Women of Other Race/Ethnicity by Percentage of Labor Force that is Veteran and Active Duty

	Veteran			Tests of Significance (see below)	Non-Serving		
	N	Mean	Std Dev		N	Mean	Std Dev
% Veteran							
<14							
F Income	21	46107	34164		3733	42357	32737
Ln F Income	21	10.407	0.923		3733	10.330	0.914
14 ≤ % <17							
F Income	41	27622	19147		3162	32457	29090
Ln F Income	41	9.867	1.150		3162	10.010	0.989
≥17							
F Income	20	27218	21183		1208	31494	32473
Ln F Income	20	9.980	0.718		1208	9.986	0.926
% Active Duty							
<1							
F Income	45	32672	26992		5520	35934	31812
Ln F Income	45	10.060	0.886		5520	10.117	0.973
1 ≤ % <5							
F Income	18	34461	23094		1881	38850	32153
Ln F Income	18	10.225	0.743		1881	10.219	0.951
≥5							
F Income	19	29187	24215		702	38972	29553
Ln F Income	19	9.786	1.455		702	10.271	0.856

Significantly different from: N - non-serving individuals, A - active duty personnel, G - individuals who served in Guard/Reserves only
At the following levels of significance(two-tailed t-test): * p ≤ .05, ** p ≤ .01, *** p ≤ .001
In significant tests: shading = veteran value exceeded that of the comparison group; no shading = value of comparison group is greater

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time or for part of the year in 1989 had a 29% ($10095) family income disadvantage relative to similar non-serving women.

Multivariate Regression: Military Status, Earnings, and Family Income

Using a multivariate regression model to control simultaneously for various factors associated with earnings and family income, including LMA conditions, the net veteran advantage or disadvantage can be ascertained by examining the coefficients of the military status dummy variables. While the coefficients for all variables used in these equations are presented, I am, for the purpose of this section, concerned only with the coefficients of the military status variables. The other coefficients will be explored in more detail in the following section. Separate regression equations were estimated for each racial/ethnic group.

Because the distributions of the natural logarithm of the dependent variables more closely approximate normal distributions than the distributions of the non-transformed variables, and the transformed variables provide a better fit of the data to the regression model (based on F and R^2 values obtained for various models in preliminary analysis), only the regression of the transformed variables is presented and discussed. Although the actual probability of achieving a |t| value greater than the achieved |t| of each regression coefficient is reported ("p"), I have used an alpha level of 0.05 to determine the significance of the parameter estimates. Unless otherwise noted, all specific results reported in this section are significant at the 0.05 level (at least). No interaction terms are used between military status and the independent/control variables in these regression equations, as this would negate the interpretation of the military

status dummy variables' coefficients for all levels of the independent variables except when all independent variables equal zero.

The coefficients of the military status variables are interpreted relative to the reference (excluded) group, veterans. Therefore, a significant positive coefficient for those with no military service, those on active duty, and/or those with service in the Guard or Reserve only, can be interpreted as an advantage for that group over veterans (i.e., a veteran disadvantage), controlling for the other factors in the equation. The opposite interpretation can be applied to significant negative coefficients (i.e., a veteran premium). As these coefficients relate to a logarithmically transformed dependent variable, they can be converted to the approximate percentage difference between the veterans and the comparison groups by the formula (Mehay and Hirsch 1996, p.205; Thornton and Innes 1989, p.444):

Percentage Differential = [EXP(-Regression Coefficient) - 1] x 100

So that the differences between veterans and other military status groups can be discussed in terms of veteran advantages/disadvantages (versus advantages/ disadvantages for the other military status categories relative to veterans) a negative sign was placed in front of the regression coefficient in this equation.

<div align="center">White, Non-Hispanic Women</div>

<div align="center">(TABLE 43)</div>

Looking at the ln(earnings) and ln(family income) equations for white, non-Hispanic women, we find that veterans have about a 13% disadvantage in terms of their earnings and a 12% disadvantage in their family income relative to those white, non-Hispanic women with no military service net of the effects of the other variables in these

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TABLE 43: Multivariate Regression Equations for White, Non-Hispanic Women

X	Ln(Earnings) N = 92464			Ln(Family Income) N = 128067		
	b	s.e.	p	b	s.e.	p
No Service	0.1340	0.0326	0.0001	0.1280	0.0326	0.0001
Active duty	-0.0482	0.0429	0.2610	-0.0963	0.0539	0.0737
Guard/Reserve	0.2025	0.0497	0.0001	0.0678	0.0486	0.1629
Years of military service	0.0581	0.0068	0.0001	0.0219	0.0076	0.0039
Years of potential civilian experience	0.0636	0.0016	0.0001	0.0050	0.0015	0.0011
Experience squared *	-0.0016	0.0001	0.0001	0.0004	0.0001	0.0001
Years of education	0.1159	0.0012	0.0001	0.0719	0.0011	0.0001
Enrolled in school	-0.0565	0.0065	0.0001	-0.0074	0.0062	0.2303
Married	0.0662	0.0064	0.0001	0.4322	0.0064	0.0001
Divorced	0.0660	0.0084	0.0001	-0.4121	0.0084	0.0001
Number of children ever born	-0.0844	0.0025	0.0001	-0.0127	0.0023	0.0001
Has a child under 6 years old	0.0444	0.0059	0.0001	-0.0384	0.0054	0.0001
% of occupation that is male ÷ 10	0.0092	0.0008	0.0001			
Number of hours worked in 1989 ÷ 40	0.0337	0.0001	0.0001	0.0071	0.0001	0.0001
% of LMA labor force that is veteran	-0.0119	0.0012	0.0001	-0.0140	0.0011	0.0001
% of LMA labor force on active duty	-0.0033	0.0009	0.0003	-0.0068	0.0008	0.0001
% of LMA living below the poverty line	-0.0258	0.0006	0.0001	-0.0357	0.0005	0.0001
% of LMA labor force that is unemployed	0.0285	0.0015	0.0001	0.0329	0.0014	0.0001
% of LMA labor force that is minority	0.0068	0.0002	0.0001	0.0105	0.0002	0.0001
% of LMA labor force that is female	0.0132	0.0013	0.0001	0.0099	0.0012	0.0001
F	5722.73		0.0001	2206.01		0.0001
R^2	0.5532			0.2466		
Adj. R^2	0.5531			0.2465		

* Because of the collinearity that often occurs between an X variable and its square, variables that are to be used in this manner are often centered. However, in models used in this study, the collinearity between experience and its square had little impact (based on an analysis of models excluding the squared term and an examination of variance inflation factors associated with the models). In addition, centering the variables, while reducing collinearity, had no significant impact on the rest of the model. Therefore, uncentered values of experience are used.

equations. In addition, women veterans in this racial/ethnic category have an earnings disadvantage of about 18% compared to their Guard and Reserve counterparts. The differences between veterans and active duty personnel, although in favor of veterans, did not reach statistical significance.

African-American Women

(TABLE 44)

The difference in values of ln(earnings) between African-American women veterans and African-American women with no military service or who were on active duty was not statistically significant controlling for the other variables in the regression equation (but was in the same direction as the difference for white, non-Hispanic women). However, veterans had a 19% earnings disadvantage relative to those with service in the Guard or Reserve only. Looking at family income, only the difference between African-American veterans and their active duty counterparts was statistically significant, with veterans receiving a substantial 57% premium.

White, Hispanic Women and Women of Other Race/Ethnicity

(TABLES 45 and 46)

None of the military status coefficients for white, Hispanic or "other" women reached levels of significance. As with the results of the difference of means tests presented earlier, this may be driven by the small number of women veterans in those racial/ethnic categories within this sample.

Men

For the purpose of comparison, it is interesting to note the results of these same regression equations for men (excluding the variables for the number of children ever

TABLE 44: Multivariate Regression Equations for African-American Women

X	Ln(Earnings) N = 9765			Ln(Family Income) N = 14371		
	b	s.e.	p	b	s.e.	p
No service	0.0677	0.0709	0.3399	0.1048	0.0876	0.2319
Active duty	-0.0673	0.0767	0.3803	-0.4500	0.1213	0.0002
Guard/Reserve	0.2159	0.0987	0.0288	0.1825	0.1186	0.1237
Years of military service	0.0573	0.0124	0.0001	0.0171	0.0180	0.3423
Years of potential civilian experience	0.0701	0.0047	0.0001	-0.0513	0.0051	0.0001
Experience squared	-0.0017	0.0002	0.0001	0.0020	0.0002	0.0001
Years of education	0.1253	0.0040	0.0001	0.0752	0.0048	0.0001
Enrolled in school	-0.0388	0.0191	0.0424	0.0508	0.0203	0.0126
Married	0.0774	0.0166	0.0001	0.6194	0.0183	0.0001
Divorced	0.0331	0.0203	0.1036	-0.1833	0.0226	0.0001
Number of children ever born	-0.0452	0.0062	0.0001	-0.0666	0.0067	0.0001
Has a child under 6 years old	0.0216	0.0162	0.1826	-0.1711	0.0176	0.0001
% of occupation that is male ÷ 10	0.0174	0.0026	0.0001			
Number of hours worked in 1989 ÷ 40	0.0311	0.0004	0.0001	0.0163	0.0003	0.0001
% of LMA labor force that is veteran	-0.0149	0.0040	0.0002	-0.0197	0.0044	0.0001
% of LMA labor force on active duty	-0.0092	0.0021	0.0001	-0.0050	0.0023	0.0321
% of LMA living below the poverty line	-0.0295	0.0016	0.0001	-0.0318	0.0017	0.0001
% of LMA labor force that is unemployed	0.0164	0.0053	0.0021	0.0168	0.0058	0.0038
% of LMA labor force that is minority	0.0053	0.0007	0.0001	0.0077	0.0008	0.0001
% of LMA labor force that is female	-0.0063	0.0039	0.1030	-0.0019	0.0043	0.6657
F	578.02		0.0001	365.52		0.0001
R^2	0.5426			0.3261		
Adj. R^2	0.5417			0.3252		

TABLE 45: Multivariate Regression Equations for White, Hispanic Women

X	Ln(Earnings) N = 4371			Ln(Family Income) N = 6276		
	b	s.e.	p	b	s.e.	p
No service	-0.1027	0.1622	0.5268	-0.0940	0.2037	0.6446
Active duty	-0.3466	0.1854	0.0617	-0.2279	0.2912	0.4337
Guard/Reserve	-0.1203	0.2115	0.5696	0.0729	0.2531	0.7734
Years of military service	0.0149	0.0372	0.6886	-0.0169	0.0514	0.7425
Years of potential civilian experience	0.0644	0.0068	0.0001	-0.0120	0.0072	0.0969
Experience squared	-0.0016	0.0003	0.0001	0.0008	0.0003	0.0042
Years of education	0.1102	0.0054	0.0001	0.0531	0.0059	0.0001
Enrolled in school	-0.0556	0.0262	0.0340	0.0162	0.0275	0.5573
Married	0.0858	0.0268	0.0014	0.3753	0.0291	0.0001
Divorced	0.0667	0.0347	0.0547	-0.3605	0.0383	0.0001
Number of children ever born	-0.0717	0.0110	0.0001	-0.0365	0.0112	0.0011
Has a child under 6 years old	0.0343	0.0274	0.2109	-0.0703	0.0276	0.0110
% of occupation that is male $\div$ 10	0.0147	0.0038	0.0001			
Number of hours worked in 1989 $\div$ 40	0.0306	0.0006	0.0001	0.0091	0.0005	0.0001
% of LMA labor force that is veteran	-0.0176	0.0050	0.0004	-0.0164	0.0052	0.0016
% of LMA labor force on active duty	0.0008	0.0041	0.8518	-0.0081	0.0042	0.0548
% of LMA living below the poverty line	-0.0279	0.0024	0.0001	-0.0372	0.0025	0.0001
% of LMA labor force that is unemployed	0.0322	0.0074	0.0001	0.0410	0.0077	0.0001
% of LMA labor force that is minority	0.0042	0.0007	0.0001	0.0057	0.0008	0.0001
% of LMA labor force that is female	0.0120	0.0059	0.0422	0.0044	0.0063	0.4836
F	248.38		0.0001	77.52		0.0001
R^2	0.5331			0.1906		
Adj. R^2	0.531			0.1881		

TABLE 46: Multivariate Regression Equations for Women of Other Race/Ethnicity

X	Ln(Earnings) N = 5114			Ln(Family Income) N = 8226		
	b	s.e.	p	b	s.e.	p
No service	0.1186	0.1450	0.4136	0.1827	0.1609	0.2562
Active duty	-0.1029	0.1663	0.5360	-0.2560	0.2659	0.3356
Guard/Reserve	-0.0546	0.2124	0.7970	-0.0307	0.2275	0.8928
Years of military service	0.0700	0.0287	0.0147	0.0489	0.0357	0.1706
Years of potential civilian experience	0.0663	0.0069	0.0001	-0.0132	0.0067	0.0470
Experience squared	-0.0017	0.0003	0.0001	0.0011	0.0003	0.0001
Years of education	0.1091	0.0050	0.0001	0.0573	0.0051	0.0001
Enrolled in school	-0.0165	0.0248	0.5055	0.0079	0.0239	0.7403
Married	0.0628	0.0260	0.0157	0.3894	0.0254	0.0001
Divorced	0.0625	0.0363	0.0855	-0.3098	0.0364	0.0001
Number of children ever born	-0.0471	0.0099	0.0001	-0.0539	0.0091	0.0001
Has a child under 6 years old	0.0155	0.0249	0.5334	-0.0543	0.0234	0.0206
% of occupation that is male ÷ 10	0.0046	0.0038	0.2197			
Number of hours worked in 1989 ÷ 40	0.0331	0.0005	0.0001	0.0097	0.0004	0.0001
% of LMA labor force that is veteran	-0.0205	0.0051	0.0001	-0.0006	0.0049	0.8945
% of LMA labor force on active duty	-0.0118	0.0035	0.0006	-0.0056	0.0033	0.0909
% of LMA living below the poverty line	-0.0265	0.0025	0.0001	-0.0419	0.0023	0.0001
% of LMA labor force that is unemployed	0.0244	0.0064	0.0001	0.0249	0.0059	0.0001
% of LMA labor force that is minority	0.0042	0.0007	0.0001	0.0095	0.0007	0.0001
% of LMA labor force that is female	-0.0053	0.0061	0.3827	-0.0104	0.0058	0.0755
F	327.52		0.0001	138.61		0.0001
R^2	0.5626			0.2430		
Adj. R^2	0.5609			0.2412		

born and the presence of a child under 6 years old, as this information was not available for males in the data set). White, non-Hispanic male veterans had a 9% earnings disadvantage relative to their non-serving counterparts and a 11% disadvantage in comparison to those white, non-Hispanic men with service in the Guard or Reserve only. The veteran disadvantage relative to these two groups is seen again in the family income equations with veterans receiving a 12% disadvantage compared to non-serving white, non-Hispanic men and an 11% disadvantage compared to the Guard/Reserve personnel. White, non-Hispanic male veterans also earned a significant advantage over their active duty counterparts in terms of both earnings (11%) and family income (33%).

African-American male veterans received a 13% earnings premium and 38% family income premium over similar active duty personnel, but did not differ significantly from African-American men in the other military status categories. White, Hispanic males and males in the "other" racial/ethnic category did not differ significantly from their non-serving counterparts and also had significant premiums relative to similar active duty personnel. White, Hispanic male veterans had a 38% earnings advantage and a 41% family income advantage, while "other" male veterans had a 17% earnings advantage and a 61% family income advantage. In addition, white, Hispanic male veterans received an earnings penalty of 15% relative to similar men with service only in the Guard or Reserve.

Multivariate Regression: Comparing Women Veterans and Non-Serving Women - A Closer Look

Given that the slopes of the various regression coefficients in the previous equations for each racial/ethnic group are constrained, by the model, to be equal across

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all military status groups, we are unable to distinguish whether or not veterans are more or less able to capitalize on their various individual characteristics or the characteristics of their occupations or LMAs when compared to their non-veteran counterparts. I, therefore, estimated separate ln(earnings) and ln(family income) for veteran and non-serving women within each racial/ethnic group.

While this methodology provides the coefficients and their statistical significance (i.e., difference from 0) for each equation, it does not provide information concerning the statistical significance of the difference between the coefficients of women veterans and those with no military service. Therefore, I ran interaction equations, interacting veteran status with each variable in the regression equations. The coefficients of the interaction terms can be interpreted as the difference in the coefficients between the reference group (in this case, non-serving individuals) and veterans. Their test of significance is the test that the difference in coefficients is statistically different than 0. The interaction models are not explicitly presented in this paper. However, if the interaction term for a given independent variable was significant at the 0.05 level of significance, the appropriate row in TABLES 47-54 is shaded. Unless otherwise noted, all coefficients reported in the text of this section are significant at the 0.05 level of significance.

As with the regression models used in the previous section, the parameter estimates in the following equations relate to a logarithmically transformed dependent variable, and, thus, can be converted to the approximate percentage change in the dependent variable due to a one unit change in the independent variable with the following formula (Mehay and Hirsch 1996, p.205; Thornton and Innes 1989, p.444):

Percentage Differential = [EXP(Regression Coefficient) - 1] x 100

White, Non-Hispanic Women

(TABLES 47-48)

Years of military service is a significant determinant of veteran ln(earnings), adding almost 6% to earnings per year served. For veterans, years of military service are more valuable then their years of potential civilian labor market experience. Although veterans appear to earn slightly less per year of civilian experience than non-serving individuals, this difference did not reach statistical significance. However, the difference between veterans' and non-serving individuals' ability to convert their education into earnings was statistically different. While women veterans converted their education into earnings at the rate of 9% per year of education, non-serving women earned about 12% per year. In addition, non-serving individuals suffered an earnings penalty of about 5% for being enrolled in school, while the veterans' earnings penalty for school enrollment, though larger, was not significant.

In terms of familial variables, marital status was insignificant in determining earnings for veterans, but being married or being divorced, widowed, or separated was associated positively with the earnings of non-serving women (relative to those single, never married). Having additional children was significantly more costly for non-serving women in terms of earnings than it was for veterans, but having a young child was much more costly for veterans. In fact, having a child under 6 years old resulted in a 13% earnings penalty for veterans, while non-serving women actually earned a 5% premium for having a young child.

TABLE 47: Ln(Earnings) Multivariate Regression Equations for White, Non-Hispanic Veteran and Non-Serving Women

X	Veteran N = 790			Non-Serving N = 90997		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0554	0.0112	0.0001	0.0000	.	.
Years of potential civilian experience	0.0330	0.0163	0.0428	0.0638	0.0016	0.0001
Experience squared	-0.0004	0.0009	0.7043	-0.0016	0.0001	0.0001
Years of education	0.0855	0.0130	0.0001	0.1160	0.0012	0.0001
Enrolled in school	-0.1021	0.0632	0.1067	-0.0559	0.0066	0.0001
Married	0.0622	0.0638	0.3295	0.0664	0.0065	0.0001
Divorced	0.0296	0.0727	0.6842	0.0671	0.0085	0.0001
Number of children ever born	-0.0243	0.0274	0.3767	-0.0846	0.0025	0.0001
Has a child under 6 years old	-0.1365	0.0584	0.0197	0.0456	0.0059	0.0001
% of occupation that is male ÷ 10	0.0132	0.0075	0.0803	0.0091	0.0008	0.0001
Number of hours worked in 1989 ÷ 40	0.0350	0.0013	0.0001	0.0337	0.0001	0.0001
% of LMA labor force that is veteran	0.0070	0.0123	0.5685	-0.0121	0.0012	0.0001
% of LMA labor force on active duty	-0.0128	0.0063	0.0415	-0.0030	0.0009	0.0015
% of LMA living below the poverty line	-0.0216	0.0064	0.0007	-0.0260	0.0006	0.0001
% of LMA labor force that is unemployed	0.0178	0.0173	0.3024	0.0288	0.0015	0.0001
% of LMA labor force that is minority	0.0065	0.0020	0.0014	0.0069	0.0002	0.0001
% of LMA labor force that is female	-0.0156	0.0144	0.2786	0.0138	0.0013	0.0001
F	61.06		0.0001	7045.48		0.0001
R^2	0.5735			0.5534		
Adj. R^2	0.5641			0.5533		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

    - The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

TABLE 48: Ln(Family Income) Multivariate Regression Equations for White, Non-Hispanic Veteran and Non-Serving Women

X	Veteran N = 1182			Non-Serving N = 126205		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0163	0.0101	0.1076	0.0000	.	.
Years of potential civilian experience	0.0034	0.0139	0.8087	0.0046	0.0015	0.0027
Experience squared	0.0003	0.0008	0.6824	0.0004	0.0001	0.0001
Years of education	0.0673	0.0122	0.0001	0.0718	0.0012	0.0001
Enrolled in school	0.0204	0.0549	0.7098	-0.0078	0.0063	0.2107
Married	0.4919	0.0593	0.0001	0.4322	0.0065	0.0001
Divorced	-0.2593	0.0682	0.0001	-0.4140	0.0085	0.0001
Number of children ever born	-0.0198	0.0211	0.3482	-0.0125	0.0023	0.0001
Has a child under 6 years old	-0.0798	0.0498	0.1097	-0.0377	0.0055	0.0001
Number of hours worked in 1989 ÷ 40	0.0090	0.0009	0.0001	0.0071	0.0001	0.0001
% of LMA labor force that is veteran	-0.0146	0.0103	0.1571	-0.0140	0.0011	0.0001
% of LMA labor force on active duty	-0.0102	0.0053	0.0543	-0.0067	0.0009	0.0001
% of LMA living below the poverty line	-0.0325	0.0055	0.0001	-0.0358	0.0005	0.0001
% of LMA labor force that is unemployed	0.0370	0.0145	0.0108	0.0330	0.0014	0.0001
% of LMA labor force that is minority	0.0083	0.0018	0.0001	0.0106	0.0002	0.0001
% of LMA labor force that is female	0.0076	0.0129	0.5555	0.0099	0.0012	0.0001
F	27.52		0.0001	2748.38		0.0001
R^2	0.2742			0.2462		
Adj. R^2	0.2643			0.2462		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

- The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

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The percentage of a woman's occupation that was male did not prove to be a significant determinant of earnings for veterans. However, non-serving women earned an additional 1% of earnings for each 10 percentage point increase in the percent male of her occupation. Looking at the military characteristics of the labor markets, the concentration of veterans in an LMA does not appear to impact veterans. Increases in veteran concentration are associated with earnings penalties of about 1% per percentage point increase in the percent of veterans in the LMA labor force for non-serving women. An increasing concentration of active duty personnel in the LMA labor force is associated with a significant earnings penalty for both veterans and non-serving women.

The only labor market characteristic coefficient on which veterans and non-veterans differed significantly is for the percent of the LMA labor force that is female. While this was not significant in the veterans' ln(earnings) equation, an increase in the concentration of women in the labor force resulted in an increase in the earnings of non-serving women. This result may be a consequence of the association between women's labor force participation and occupational segregation. That is, in those labor markets which have higher concentrations of women in the labor force, women may be less occupationally segregated (Abrahamson and Sigelman 1987) into lower paying jobs.

Looking at the ln(family income) equations for white, non-Hispanic veteran and non-serving women (TABLE 48), the only significant difference between veterans and non-serving individuals occurs in the coefficients of the dummy variable for being divorced, widowed, or separated. Non-serving women are penalized more for falling into this category than were veterans. The family income premium for being married, not separated was significant and substantial for both veteran (64%) and non-serving

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women (54%). Other familial variables, such as the number of children ever born and having a child under 6 years old were not significant in the veteran ln(family income) equation. Both of these variables were negatively related to family income for non-serving women.

Similarly, experience, either civilian or military, was not a significant determinant of veteran family income. Education, however, was associated with a significant 7% increase in veteran family income per year of education. The military characteristics of local labor markets were not significant in the veteran ln(family income) equation, although the negative impact of increasing concentrations of active duty personnel in the LMA labor force was almost significant (p =0.0543). Increases in the concentration of veterans and active duty personnel in the LMA labor force were associated with family income penalties for non-serving women (about a 1% decrease in family income per percentage point increase in the concentration of veterans or the concentration of active duty personnel).

<div align="center">African-American Women</div>

<div align="center">(TABLES 49-50)</div>

African-American women veterans did not differ significantly from their non-serving counterparts on any coefficient of any variable in their ln(earnings) equation. In fact, none of the experience (military and civilian), familial, or labor market coefficients reached statistical significance for veterans in this racial/ethnic category. The only coefficients that were significant were for education and the number of hours worked per week divided by 40. This non-significance may, in part, be driven by the N for this equation (150). It is interesting to note, though, that while the concentration of veterans

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TABLE 49: Ln(Earnings) Multivariate Regression Equations for African-American Veteran and Non-Serving Women

X	Veteran N = 150			Non-Serving N = 9379		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0198	0.0244	0.4190	0.0000	.	.
Years of potential civilian experience	0.0368	0.0380	0.3342	0.0721	0.0049	0.0001
Experience squared	-0.0005	0.0021	0.8313	-0.0017	0.0002	0.0001
Years of education	0.1340	0.0325	0.0001	0.1240	0.0040	0.0001
Enrolled in school	0.0628	0.1546	0.6853	-0.0396	0.0196	0.0431
Married	-0.1640	0.1486	0.2717	0.0785	0.0169	0.0001
Divorced	-0.0588	0.1635	0.7195	0.0358	0.0206	0.0828
Number of children ever born	-0.0666	0.0587	0.2591	-0.0460	0.0063	0.0001
Has a child under 6 years old	0.2114	0.1273	0.0991	0.0180	0.0165	0.2755
% of occupation that is male ÷ 10	0.0084	0.0193	0.6651	0.0187	0.0027	0.0001
Number of hours worked in 1989 ÷ 40	0.0327	0.0031	0.0001	0.0312	0.0004	0.0001
% of LMA labor force that is veteran	0.0321	0.0307	0.2985	-0.0145	0.0041	0.0004
% of LMA labor force on active duty	-0.0008	0.0111	0.9439	-0.0107	0.0023	0.0001
% of LMA living below the poverty line	-0.0113	0.0143	0.4327	-0.0297	0.0016	0.0001
% of LMA labor force that is unemployed	-0.0074	0.0459	0.8720	0.0156	0.0054	0.0039
% of LMA labor force that is minority	0.0030	0.0051	0.5483	0.0056	0.0007	0.0001
% of LMA labor force that is female	-0.0139	0.0342	0.6844	-0.0057	0.0039	0.1461
F	8.52		0.0001	703.79		0.0001
R^2	0.5233			0.5460		
Adj. R^2	0.4619			0.5453		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

   - The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

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TABLE 50: Ln(Family Income) Multivariate Regression Equations for African-American Veteran and Non-Serving Women

X	Veteran N = 235			Non-Serving N = 13939		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0449	0.0239	0.0618	0.0000	.	.
Years of potential civilian experience	0.0038	0.0360	0.9166	-0.0545	0.0052	0.0001
Experience squared	0.0008	0.0020	0.7065	0.0022	0.0002	0.0001
Years of education	0.0773	0.0358	0.0320	0.0743	0.0049	0.0001
Enrolled in school	-0.2095	0.1445	0.1486	0.0498	0.0208	0.0167
Married	0.3662	0.1369	0.0080	0.6245	0.0187	0.0001
Divorced	-0.2532	0.1560	0.1061	-0.1852	0.0230	0.0001
Number of children ever born	-0.0264	0.0519	0.6110	-0.0666	0.0068	0.0001
Has a child under 6 years old	-0.0363	0.1268	0.7749	-0.1718	0.0179	0.0001
Number of hours worked in 1989 ÷ 40	0.0099	0.0023	0.0001	0.0165	0.0003	0.0001
% of LMA labor force that is veteran	-0.0248	0.0297	0.4046	-0.0205	0.0045	0.0001
% of LMA labor force on active duty	-0.0051	0.0109	0.6389	-0.0041	0.0025	0.0996
% of LMA living below the poverty line	-0.0311	0.0138	0.0250	-0.0319	0.0017	0.0001
% of LMA labor force that is unemployed	0.0082	0.0429	0.8479	0.0167	0.0059	0.0049
% of LMA labor force that is minority	0.0003	0.0051	0.9582	0.0077	0.0008	0.0001
% of LMA labor force that is female	0.0135	0.0335	0.6866	-0.0026	0.0044	0.5561
F	4.70		0.0001	454.93		0.0001
R^2	0.2565			0.3289		
Adj. R^2	0.2019			0.3282		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

- The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

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and active duty personnel in the LMA labor force did not significantly impact the earnings of African-American veterans, increasing percentages of veterans and active duty personnel in the labor force had a significant depressing effect on the earnings of African-American non-serving women (about 1% per percentage point increase).

In terms of family income, the only significant difference between veterans and non-serving individuals occurred in the coefficient for the number of hours worked in 1989 divided by 40. Here, a 40 hour period worked by veterans contributed significantly less to family income then did the time worked by non-serving individuals. One other difference between veteran and non-serving women that is not statistically significant but is noteworthy can be seen in their coefficients for the dummy variable for being married. While veterans received a 44% premium for being married (relative to being single, never married), non-serving African-American women received a 87% premium. Other significant determinants of veteran family income were education (b = 0.077) and the control for the percent of individuals in the LMA who live below the poverty line (b = -0.31). Although the coefficient for the percent of the LMA labor force that is on active duty did not reach statistical significance for either veterans or non-serving individuals, increasing concentrations of veterans had a negative impact on family income for non-serving women (about 2% per percentage point).

White, Hispanic Women

(TABLES 51-52)

There were no significant differences between the coefficients of white, Hispanic women veteran and non-serving women in either the ln(earnings) or ln(family income) equations. The only veteran coefficient that reached statistical significance in the

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TABLE 51: Ln(Earnings) Multivariate Regression Equations for White, Hispanic Veteran and Non-Serving Women

X	Veteran N = 35			Non-Serving N = 4294		
	b	s.e.	p	b	s.e.	p
Years of military service	-0.0227	0.0662	0.7359	0.0000	.	.
Years of potential civilian experience	-0.0977	0.0777	0.2258	0.0648	0.0069	0.0001
Experience squared	0.0069	0.0049	0.1746	-0.0016	0.0003	0.0001
Years of education	0.1084	0.0612	0.0946	0.1110	0.0054	0.0001
Enrolled in school	0.4040	0.2846	0.1739	-0.0602	0.0265	0.0232
Married	-0.5492	0.3008	0.0855	0.0838	0.0270	0.0020
Divorced	-0.2942	0.4693	0.5391	0.0646	0.0350	0.0647
Number of children ever born	0.0307	0.1454	0.8354	-0.0733	0.0111	0.0001
Has a child under 6 years old	0.5145	0.3385	0.1469	0.0331	0.0276	0.2309
% of occupation that is male ÷ 10	0.0063	0.0272	0.8200	0.0146	0.0039	0.0002
Number of hours worked in 1989 ÷ 40	0.0442	0.0060	0.0001	0.0306	0.0006	0.0001
% of LMA labor force that is veteran	0.0504	0.0468	0.2962	-0.0169	0.0050	0.0008
% of LMA labor force on active duty	0.0346	0.0328	0.3061	0.0001	0.0043	0.9896
% of LMA living below the poverty line	0.0311	0.0317	0.3398	-0.0283	0.0024	0.0001
% of LMA labor force that is unemployed	-0.1227	0.0774	0.1312	0.0325	0.0074	0.0001
% of LMA labor force that is minority	-0.0092	0.0093	0.3334	0.0044	0.0007	0.0001
% of LMA labor force that is female	0.0336	0.0792	0.6771	0.0117	0.0060	0.0499
F	5.99		0.0003	306.74		0.0001
R^2	0.8569			0.5343		
Adj. R^2	0.7138			0.5326		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

    - The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

TABLE 52: Ln(Family Income) Multivariate Regression Equations for White, Hispanic Veteran and Non-Serving Women

X	Veteran N = 53			Non-Serving N = 6184		
	b	s.e.	p	b	s.e.	p
Years of military service	-0.0429	0.0711	0.5505	0.0000	.	.
Years of potential civilian experience	-0.0567	0.1013	0.5787	-0.0129	0.0073	0.0757
Experience squared	0.0030	0.0063	0.6441	0.0009	0.0003	0.0032
Years of education	0.1117	0.0935	0.2403	0.0535	0.0060	0.0001
Enrolled in school	0.2124	0.3402	0.5364	0.0145	0.0278	0.6022
Married	0.3553	0.3724	0.3463	0.3772	0.0293	0.0001
Divorced	-0.4091	0.4610	0.3807	-0.3623	0.0385	0.0001
Number of children ever born	0.2059	0.1342	0.1336	-0.0384	0.0113	0.0007
Has a child under 6 years old	-0.1690	0.3529	0.6349	-0.0688	0.0278	0.0135
Number of hours worked in 1989 ÷ 40	0.0013	0.0061	0.8340	0.0092	0.0005	0.0001
% of LMA labor force that is veteran	0.0616	0.0617	0.3245	-0.0164	0.0052	0.0017
% of LMA labor force on active duty	-0.0133	0.0268	0.6227	-0.0081	0.0043	0.0607
% of LMA living below the poverty line	-0.0177	0.0363	0.6278	-0.0375	0.0025	0.0001
% of LMA labor force that is unemployed	0.0534	0.1020	0.6039	0.0411	0.0078	0.0001
% of LMA labor force that is minority	0.0040	0.0113	0.7243	0.0058	0.0008	0.0001
% of LMA labor force that is female	0.0402	0.0904	0.6590	0.0042	0.0064	0.5066
F	0.83		0.6466	98.31		0.0001
R^2	0.2693			0.1930		
Adj. R^2	-0.0555			0.1910		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

- The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

veterans' ln(earnings) equation was for the number of hours worked in 1989 divided by 40. This lack of statistically significant coefficients is likely to be driven by the relatively small N of 35 in this equation.

The veteran model for the ln(family income) appears to have collapsed trying to fit too few cases (53) into too many variables (16) as evidenced by an F value of .83 (p > F = 0.65) and an adjusted R^2 of -0.0555. I attempted to correct this problem by removing the control variables for the LMA characteristics from the model, but the model still failed to reach statistical significance.

Although the information that can be gleaned from these models is relatively limited, the effects of the military characteristics of the LMA labor forces, more specifically, the concentration of veterans in the labor force, on the earnings and family income of non-serving white, Hispanic women are still significant. Each percentage point increase of veterans in the LMA labor force is associated with an almost 2% decrease in earnings and family income.

Women of Other Race/Ethnicity

(TABLES 53-54)

Women veterans who were categorized into the "other" racial/ethnic category were significantly better able than their non-serving counterparts to convert their time spent at work into earnings. Whereas each 40 hours worth of work for veterans represents about a 5% increase in earnings, the same amount of work by non-serving women is worth only about a 3% increase. In addition, veterans are less impacted by the overall poverty rate of their LMA than non-serving women. The percentage of individuals living below the poverty line within the LMA is not a significant determinant

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TABLE 53: Ln(Earnings) Multivariate Regression Equations for Veteran and Non-Serving Women of Other Race/Ethnicity

X	Veteran N = 50			Non-Serving N = 5018		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0931	0.0572	0.1134	0.0000	.	.
Years of potential civilian experience	0.0549	0.0519	0.2983	0.0688	0.0070	0.0001
Experience squared	-0.0008	0.0029	0.7893	-0.0018	0.0003	0.0001
Years of education	0.1597	0.0657	0.0208	0.1083	0.0050	0.0001
Enrolled in school	-0.3947	0.2857	0.1767	-0.0090	0.0251	0.7203
Married	0.0135	0.3590	0.9703	0.0639	0.0262	0.0147
Divorced	0.1838	0.4450	0.6824	0.0679	0.0366	0.0639
Number of children ever born	-0.0782	0.1602	0.6286	-0.0473	0.0100	0.0001
Has a child under 6 years old	0.1749	0.2870	0.5464	0.0169	0.0251	0.5015
% of occupation that is male ÷ 10	0.0191	0.0369	0.6088	0.0048	0.0038	0.2083
Number of hours worked in 1989 ÷ 40	0.0468	0.0062	0.0001	0.0332	0.0005	0.0001
% of LMA labor force that is veteran	-0.0966	0.0854	0.2662	-0.0196	0.0051	0.0001
% of LMA labor force on active duty	0.0252	0.0344	0.4689	-0.0116	0.0036	0.0011
% of LMA living below the poverty line	0.0692	0.0383	0.0798	-0.0266	0.0025	0.0001
% of LMA labor force that is unemployed	-0.0991	0.1097	0.3730	0.0244	0.0065	0.0002
% of LMA labor force that is minority	-0.0094	0.0149	0.5312	0.0042	0.0007	0.0001
% of LMA labor force that is female	0.0429	0.0784	0.5883	-0.0075	0.0061	0.2178
F	6.14		0.0001	404.36		0.0001
R^2	0.7654			0.5640		
Adj. R^2	0.6407			0.5626		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

- The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

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TABLE 54: Ln(Family Income) Multivariate Regression Equations for Veteran and Non-Serving Women of Other Race/Ethnicity

X	Veteran N = 82			Non-Serving N = 8103		
	b	s.e.	p	b	s.e.	p
Years of military service	0.0960	0.0546	0.0833	0.0000	.	.
Years of potential civilian experience	0.0816	0.0528	0.1273	-0.0145	0.0068	0.0320
Experience squared	-0.0009	0.0028	0.7535	0.0011	0.0003	0.0001
Years of education	0.1512	0.0643	0.0218	0.0569	0.0051	0.0001
Enrolled in school	0.3694	0.2713	0.1781	0.0041	0.0241	0.8645
Married	0.4428	0.3065	0.1533	0.3889	0.0256	0.0001
Divorced	-0.2744	0.3768	0.4690	-0.3123	0.0368	0.0001
Number of children ever born	-0.2246	0.1127	0.0505	-0.0525	0.0092	0.0001
Has a child under 6 years old	0.3712	0.2674	0.1698	-0.0553	0.0236	0.0191
Number of hours worked in 1989 ÷ 40	0.0124	0.0050	0.0153	0.0098	0.0004	0.0001
% of LMA labor force that is veteran	0.0150	0.0673	0.8242	-0.0019	0.0049	0.6978
% of LMA labor force on active duty	-0.0519	0.0274	0.0629	-0.0035	0.0034	0.2949
% of LMA living below the poverty line	0.0110	0.0342	0.7496	-0.0418	0.0023	0.0001
% of LMA labor force that is unemployed	-0.0354	0.0886	0.6908	0.0249	0.0059	0.0001
% of LMA labor force that is minority	0.0143	0.0107	0.1834	0.0094	0.0007	0.0001
% of LMA labor force that is female	-0.1608	0.0723	0.0297	-0.0091	0.0059	0.1215
F	2.33		0.0086	173.48		0.0001
R^2	0.3649			0.2434		
Adj. R^2	0.2085			0.2420		

Note - shaded rows indicate that the difference in the coefficients for that X variable between women veterans and non-serving women is significant at the 0.05 level of significance using an interaction model which interacted veteran status with each X variable. Darker shading indicates that the veterans' coefficient is greater than that of the non-serving women. Lighter shading indicates that the veterans' coefficient was less than that of non-serving women.

- The column labeled "p" is the probability of a greater absolute value of t under the null hypothesis that the parameter estimate is equal to 0 (two-tailed). If the achieved probability is less than α (.05), then the coefficient is judged to be statistically different from 0.

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of veteran earnings, but each increasing percentage point increase in the poverty rate is associated with an almost 3% decrease in the earnings of non-serving women. Besides time spent at work, years of education were also a significant predictor of veteran (and non-veteran) earnings.

In terms of the ln(family income), the only significant difference in coefficients between veteran and non-serving women was for the coefficient of the percent of the LMA labor force that was female. While, the coefficient for this variable for veterans was significant and negative (b = -0.1608), the coefficient for non-serving women was not statistically significant. In other words, increasing percentages of women in the labor force is more detrimental to the earnings of veterans than to those women with no military service. The only other coefficients that were significant in the veteran ln(family income) equation were education and time spent at work. While the difference was not statistically significant, the education of veterans appears to be more readily converted into family income than the education of non-serving women.

The percentage of the LMA labor force that is veteran and on active duty significantly impacts the earnings, but not the family income, of non-serving "other" women. A 1 percentage point increase in the percentage of veterans in the labor force is associated with a 2% decrease in earnings. A 1 percentage point increase in the percentage of active duty personnel in the labor force is associated with a 1% earnings penalty.

DISCUSSION

The results above tell a complex story about the post-service socioeconomic status attainment of women veterans of the AVF. I have attempted to organize and explain this story in the following sections. I will first review and discuss the results directly related to my hypotheses as I attempt to place them back in the context of my theoretical framework. I will then discuss some of my other findings that, while not directly related to my hypotheses, may have some theoretical implications.

Evaluating the Hypotheses

Based on the idea that women are a minority (in the sense of disadvantage rather than numbers) and that previous research demonstrates that minority males benefit most from military service, I hypothesized that women veterans would achieve some gain in socioeconomic status relative to their non-serving counterparts (Hypothesis 1). These gains would possibly be produced by bridging hypothesis variables such as gains in education and training, increased independence and socialization to a male-dominated work environment, or increasing familiarity with working within a bureaucracy. A veteran advantage may also have been produced indirectly via the interaction of military service with familial variables which would lessen the demands of family life on women veterans and allow more time for the pursuit of socioeconomic status attainment. Gains could have also been produced by employers giving preference to government "certified" workers. Lastly, gains may have been realized because of how selective the military has been with the women that they allow into the ranks. That is, the women who were

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selected by the military may have already had the characteristics that they needed to succeed in the civilian labor market.

However, the veteran advantage, overall, never really materialized for any racial or ethnic group. In fact, when the data were disaggregated by race/ethnicity and military status, no group of veteran women had an advantage over their non-serving counterparts in terms of either earnings or family income. This finding holds even when several variables were controlled for within the regression portion of my analysis. It appears that the best women veterans could do was break even, which African-American, white Hispanic, and "Other" women did. White, non-Hispanic women veterans, did not fare that well. Overall, they were disadvantaged relative to similar non-serving women in terms of their family income and, once relevant factors were controlled for in the regression equations, a veteran penalty was evident in both earnings and family income.

This finding lends credence to my second hypothesis that minority veterans receive more of a benefit (or less of a cost) for their veteran status relative to minority non-veterans than do non-minority veterans relative to similar non-veterans (Hypothesis 2). Why white, non-Hispanic veterans are disadvantaged is a bit more difficult to explain. In terms of earnings, it appears that education may play a significant role in this difference. That is, white, non-Hispanic veterans have significantly less education than their non-serving counterparts and are significantly less able to convert their years of education into earnings. This is likely to be driven by the fact that significantly fewer white, non-Hispanic veterans than non-veterans have completed their bachelor's degree.

Another issue that is likely driving down the earnings of white, non-Hispanic veterans is the timing of the births of their children. While information is not available on

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birth timing, one can assume that many of these women veterans waited until they were either on their way out of the service or were already out of the service before having a child. Thus, women veterans would be more likely to have younger children than their non-veteran counterparts who did not have or choose to wait. The data in this study show this to be true. The presence of younger children may make it more difficult for women veterans to complete their four-year degrees. In addition, having young children during the period in which the veteran is attempting to transfer back into the civilian labor force may be especially harmful. The results of this study show that having a child under six years old is significantly more detrimental in terms of earnings to white, non-Hispanic veterans than it is to non-veterans. This supports Hypothesis 5. However, this hypothesis only appears to hold for white, non-Hispanic women veterans. Other racial/ethnic groups of veterans did not differ significantly from their respective non-serving women in terms of the financial cost of having a young child.

White, non-Hispanic women veterans were also disadvantaged in terms of their family income. The reason for this disadvantage is likely to be two-fold. First, some of the veteran family income penalty is a result of the earnings disadvantage which I have already discussed. A second portion of this penalty might be explained by the marital patterns of these women. First of all, white, non-Hispanic women veterans are significantly more likely to be divorced, widowed, or separated than their non-serving counterparts (as are African American and "other" veterans), which is associated with a substantial family income penalty. Another important factor may be their choice of marital partners. If these women married white, non-Hispanic men who were either on active duty or were veterans, then they would be marrying someone who, on average,

earns significantly less than his non-serving counterpart. However, the lack of significant difference between the marriage coefficients of veterans and non-veterans across all races/ethnicities in the family income regression equations does not support this. In other words, marriage, overall, holds roughly equal value in terms of family income for both veterans and non-serving individuals.

This finding weighs against my hypothesis that veterans who are married receive either less of a marriage premium or more of a marriage penalty compared to similar non-veterans (Hypothesis 4). The only difference in marriage coefficients that even approached significance in the family income regression or earnings equations was between African-American veterans and their non-serving counterparts (family income). It may be argued that some of the penalty associated with veteran marriage patterns was removed by controlling for the percentage of the LMA labor force on active duty. That is, some of the penalty associated with marrying an active duty man is associated with living in a local labor market with higher concentrations of active duty personnel. Because I controlled for this, the value of veterans' marriages may actually be inflated. However, in analysis not shown, I reran the regression equations leaving out the control for the concentration of active duty personnel in the local labor market and found that there was no substantial change in the marriage regression coefficients.

When the data are disaggregated by age and the mean earnings of veterans and non-serving individuals are compared, we see that much of the earnings disadvantage that white, non-Hispanic veterans experience relative to their non-serving counterparts is experienced by those in the middle age group (26-32 years old). In fact, the youngest veterans (19-25) and the oldest veterans (33-40) experience a premium over similar

individuals with no military service. In addition the oldest white, non-Hispanic women veterans have a slightly greater advantage over similarly aged non-serving individuals than the youngest veterans have over their non-serving counterparts.

This finding supports my hypothesis that older female veterans have achieved more, relative to similar non-veterans, than younger veterans (Hypothesis 3). This hypothesis may only hold for white, non-Hispanic women as races/ethnicities other than white, non-Hispanic did not show any significant earnings differences between veterans and non-veterans when the data were disaggregated in this manner. In addition, the logic behind this hypothesis was that younger veterans were still likely to be transitioning from military service into the civilian labor force where they may not yet have had the chance to benefit from their veteran status and may suffer an earnings disadvantage during that period. Therefore, I expected the youngest veterans, not the middle group, to be the most disadvantaged.

The concentration of the earnings disadvantage in the middle age category of white, non-Hispanic women veterans may be related to the educational disadvantage, in terms of degree completion, of veterans in this age group relative to similarly aged non-serving individuals. While 26% of employed non-serving white, non-Hispanic women between the ages of 26 and 32 had completed a four-year degree, only 14% of similar veterans had done so. It is also interesting to note that moving into the higher age category, where veterans have an earnings advantage, the percentage of white, non-Hispanic veterans who had completed their bachelor's degree actually exceeds that of non-serving women, although not significantly.

The relationship between family income and age is different from that of earnings to age. In fact, there is no support for Hypothesis 3 using this dependent measure. Across all age categories, African-American, white Hispanic, and "Other" race/ethnicity women veterans did not differ significantly from their non-serving counterparts. Again, the only differences occurred within the white, non-Hispanic category. While, the difference between white, non-Hispanic women veterans and non-serving women in the youngest age category was not significant, the difference became significant and favored the non-serving women in the two older age groups. Given that earnings differences show a quite different pattern with increasing age, the difference in family income is likely being driven by factors other than the women veterans' earnings.

One such contributing factor may be related to the marriage patterns of white, non-Hispanic veterans. When the percentage of white, non-Hispanic women who are in each marital status category is calculated by age category, an interesting pattern can be seen that may explain the pattern of family income differences. That is, in the youngest category white, non-Hispanic women veterans are significantly more likely (at the 0.05 level of significance) than their non-serving counterparts to be married (54% vs. 37%) and to be divorced (14% vs. 5%). These are offsetting factors as far as family income is concerned and may explain why there is no difference in family income between veterans and non-serving women in the youngest age category. However, in the upper two age categories white, non-Hispanic women veterans are significantly less likely to be married (26-32: 62% vs. 71%, 33-40: 68% vs. 78%) and more likely to be divorced (26-32: 21% vs. 12%, 33-40: 20% vs. 15%), which is likely to lead to a veteran family income disadvantage. However, even controlling for marital status in the family income

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regression equations, a veteran disadvantage still persisted. The white, non-Hispanic veteran disadvantage in the regression equation, though, was about equal to the veteran disadvantage in the earnings equation.

Active Duty and the Guard/Reserve

In addition to my research on the differential status attainment of veteran women and women with no military service, I also conducted some exploratory investigation into the comparison of veterans to active duty personnel and individuals with service only in the Guard or Reserve. Comparisons between veterans and these two groups are important for two main reasons. First, and probably most important, is that veterans share with active duty and Guard/Reserve personnel two things that they do not share with non-serving women. One is that they all met the requisite physical, mental, and moral standards in order to be selected by the military for service. This cannot be said for all non-serving women, although the limitation of my sample to high school graduates is likely to help mitigate the effects of selection bias. The other shared characteristic is that all of these women have self-selected for military service. While volunteering for active duty and volunteering for the Reserves probably involves slightly different motivations, there is still a similarity that exists with veterans in volunteering for military service. The second reason why this comparison is important is because active duty personnel represent the "cost" or "benefit" of a veteran's choice not to remain in the service.

I expected that young women veterans would be disadvantaged relative to those who were in the military, but that this disadvantage would diminish with age (Hypothesis 6). Comparing the mean earnings of active duty personnel with veterans by

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race/ethnicity, white, non-Hispanic veterans were the only ones to be disadvantaged relative to similar active duty personnel. African-American women veterans did not show a significant difference in this comparison (Note that comparisons were not made in the white Hispanic or "Other" racial/ethnic groups because of insufficient Ns). When the data are disaggregated by age, the trend opposite of what I predicted can be seen. That is, for both white, non-Hispanics and African Americans, there is a veteran disadvantage relative to active duty personnel that increases with age.

Comparing the mean family incomes of veterans and active duty personnel by race, I found that, overall, both white, non-Hispanic and African-American veterans were significantly disadvantaged relative to their active duty counterparts. Among white, non-Hispanics, a pattern similar to that which could be seen in the earnings comparison emerges, with the oldest group of veterans receiving the most disadvantage. However, only the middle age group of African-American veterans experienced an earnings disadvantage.

The regression models, however, show a distinctly different relationship between veterans and active duty personnel. That is, white, non-Hispanic veterans experienced no significant difference from similar active duty personnel in terms of earnings or family income. African-American veterans did not differ significantly from their active duty counterparts in terms of income, but actually had a significant advantage over similar active duty personnel in terms of family income. The disparate results between the mean comparisons and the regression equations are related to the control for the amount of time worked in 1989 in the regression. On average, white, non-Hispanic and African-American active duty personnel worked 1.5 times as many hours in 1989 than their

veteran counterparts. Therefore, when this time is held constant, the active duty advantage disappears. In analysis not shown, I reran the regression equations, removing the control for hours worked and found that the active duty advantage returned in the earnings equations for white, non-Hispanics and African Americans and that the differences in family income became insignificant. Thus, veterans are likely to earn less than their active duty counterparts in annual earnings, but the active duty personnel must work significantly more often to receive this premium.

It is also important to note that the dependent measures for active duty personnel may underestimate the advantages (or overestimate the disadvantages) of active duty service. Free medical care, on-base housing, tax-free shopping, and other tax breaks (e.g., some of the allowances for active duty personnel are non-taxable) add considerably to the value of military service. These things are not included in my measurements. Therefore, my estimates of the difference in socioeconomic status between veterans and their active duty counterparts are likely to be biased in favor of veterans.

I did not start out with any predictions about the comparison between veterans and individuals with service only in the Guard or Reserve. Only one article that I came across during my literature review even addressed the Guard or Reserve issue. Mehay and Hirsch (1996) compared veteran reservists with non-veteran reservists and found that, overall, women veterans were at an earnings disadvantage relative to their non-veteran counterparts. Most of this disadvantage was borne by non-minority women. Comparing women veterans, on whom I do not have any information concerning whether or not they also had service in the Guard or Reserve, to women who have only

served in the Guard or Reserve (they may or may not be currently serving in the Guard or Reserve) is somewhat different.

When comparing the mean earnings and family incomes of veterans and individuals with service in the Guard or Reserve only by race, there does not appear to be much difference between the two groups. Only the youngest white, non-Hispanic women veterans earned significantly more than their Guard/Reserve counterparts. Controlling for the various measures related to socioeconomic status in the regression equations produced a significant earnings disadvantage for both white, non-Hispanic and African-American veterans relative to similar women with service only in the Guard or Reserve. The difference in family income remained insignificant. While the finding on earnings is consistent with the results of Mehay and Hirsch (1996) in terms of the direction of the relationship, the magnitude of the veteran disadvantage I found was significantly greater than theirs (20%-22% vs. 9%). In addition, I found that both white, non-Hispanic and African-American veterans were about equally disadvantaged relative to their Guard/Reserve counterparts.

The Military Composition of Local Labor Markets

While not the primary focus of my research, the military composition of local labor markets appears to influence significantly the earnings and family income of women veterans and non-veterans. DeTray (1982) hypothesized that veteran status would be of particular benefit to veterans in subgroups within which there were a multitude of veterans. This is because those who were not veterans were unlikely to have met the high standards necessary to be selected by the military for service. Knowing this, employers could use a person's veteran/non-veteran status as a screening device to weed

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out those individuals who may not be productive workers. Likewise, if there are subgroups in which there are very few veterans, then the value of veteran status as a screening device depreciates because there are likely to be many non-veterans who could have met the military's standards had they chosen to do so.

While DeTray (1982) was referring to birth cohorts in his study, I attempted to apply this concept to labor forces. By controlling for the percentage of the local labor force that is veteran, I expected that increasing percentages of veterans would lead to increasing advantages for veterans, as non-veterans were 'screened out' at a higher rate. However, this was not my finding. Overall, increasing concentrations of veterans in the labor force was associated with a 1%-2% earnings and family income penalty for each percentage point increase in the percentage of veterans in the LMA labor force. For the most part, this held for all races/ethnicities (with the exception of the family income of "other" women). In addition, veterans and non-serving women, across all races/ethnicities, did not differ significantly in the effect that this variable had on their earnings or family income. It is noteworthy that, in analysis not shown, the variable operated in a similar fashion for males of all races/ethnicities.

The other military characteristic of labor markets that I included in this study was the percentage of the LMA labor force that is on active duty. Increasing concentrations of active duty personnel in the local labor market have been associated with negative consequences for the socioeconomic status attainment of women [Cotter et al. (1997)]. As I explained earlier, this may be due to the captive, yet transient nature of a large portion of the work force that is occupied by military spouses. In general, I found that the larger the percentage of active duty personnel that was in the labor force, the lower

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earnings and family income. This effect, though significant, was less in magnitude (less than 1% per percentage point increase) than the effect of the concentration of veterans. The effect of veteran and active duty concentration on socioeconomic status attainment is especially important to women veterans, who tend to live in areas of higher concentrations of both veteran and active duty personnel than their non-serving counterparts.

What makes the findings concerning the military composition of labor markets even more striking is that their impact persists even after I have controlled for local unemployment rates, poverty rates, and the percentages of minorities and women in the labor force. While I have suggested that the nature of the labor force within labor markets which have high concentrations of active duty personnel may contribute to this effect, there may be other correlated factors which better explain the negative impact of high concentrations of military and ex-military personnel on earnings and family income. One possibility may have to do with the regions in which these labor markets are located. I have argued previously about the importance of including local labor market conditions in the analysis of socioeconomic status, but we cannot forget that these labor markets are embedded in regions which may have differential wage structures, occupational structures, or cultural values regarding the value of women's employment.

While a pattern of this nature is not readily observable looking at the location of those labor markets with the highest concentrations of veterans in the labor force, nine out of the ten labor markets (and all of the top five) with the highest concentrations of active duty personnel are located in the southern region (as defined by the U.S. Census Bureau). These ten, ranked in descending order of active duty concentration, include:

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Killeen, TX (Ft. Hood); Ft. Knox, KY; Jacksonville, NC (Camp Lejeune); Hopkinsville, KY (Ft. Cambell); Virginia Beach, VA (several installations); Hinesville, GA (Ft. Stewart); Lawton, OK (Ft. Sill); Fayetteville, NC (Ft. Bragg); Pensacola, FL (Pensacola NAS, Eglin AFB, Hurlbert Field); and Ft. Leonard Wood, MO.

When a dummy variable that controls for residence in the South is added to the regression equations in TABLES 43-46, contrary to what one would expect, there is no substantive change in the regression coefficients for the variables representing the concentration of military personnel and veterans in the labor market. This implies that the negative impact of having high concentrations of active duty personnel or veterans in the labor market occurs net of the effects of any regional (South/Non-South) differences.

CONCLUSION

The bridging environment hypothesis was first posited by Browning, Lopreato, and Poston in 1973. They viewed the military as an investment opportunity where those individuals lacking in human capital or in their ability to convert human capital into socioeconomic status could invest a few years of their lives in exchange for education and training, motivation and independence, and skills that they could utilize to operate more effectively within a bureaucratic system. The greater the initial human capital deficit, the more likely a profit would be realized. The risk in this investment, though, is that by joining the military, the chance to invest in other opportunities, which may yield more of a profit, is forgone or delayed.

This theory was developed almost a quarter of a century ago when opportunities for minorities and women were much more limited than they are today or were in 1990, when my data were collected. Therefore, a more recent "investment" in the military translates into a higher investment risk and decreased likelihood of profit for those who joined the military in an era of increasing civilian opportunities. Indeed, it is apparent from this study that groups of individuals who have been traditionally thought of as disadvantaged in terms of human capital or their ability to convert their capital into status (i.e., minorities and women) may no longer receive a profit from military service, or, at least, a profit that is more beneficial than the foregone or delayed opportunities.

Instead of conceptualizing this change in the process of status attainment as a loss for veterans, it may be better to view the lack of a veteran advantage as a depreciation of veteran benefits relative to the benefits of citizenship in general. As

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Segal (1989) points out, the benefits of citizenship are, for the most part, no longer tied to obligations of citizenship. Yesterday's veterans' benefits are today's non-veterans' entitlements. The prime example of this is the Federal support and subsidization of civilian education. Segal (1989) refers to this as the G.I. Bill without the G.I. It appears that the benefits of military service during the AVF allow minority women veterans to keep pace with their civilian counterparts, but do not offer the extra payoff that previous research on minority males seemed to demonstrate. White, non-Hispanic women appear to lose ground, at least initially, to their civilian counterparts through their military service. The reason why a veteran disadvantage only surfaces in the analysis of white, non-Hispanic women may be related to the increased opportunities which white, non-Hispanic non-veterans have over minority non-veterans.

This study also points to the significance of the interaction of military service with family life. A life course perspective may be most appropriate for summarizing the apparent interaction between these two institutions. While data show that women on active duty may be limiting the demands which the family places on them because of the greedy nature of the military institution (e.g., by having fewer children), these limitations do not appear to be permanent or to carry over into a veteran's post-service life, giving the veterans a socioeconomic advantage over their non-veteran counterparts. Thus, the limiting of family demands by active duty women should be viewed as a temporary solution to a problem of limited personal resources, not a long-term socioeconomic strategy. The delay in veteran childbearing due to military service may result in veterans having children, or at least having younger children, at a point in their life cycle in which it may be very disadvantageous, in terms of socioeconomic status attainment, to have a

young child. Having a young child may make the transition back into the civilian labor force more difficult or delay educational attainment (e.g., completion of a bachelor's degree).

A decline in the relative value of veteran benefits and the interaction of military service with family variables over one's life course are not the only explanations for my results, however. One must also remember that selection bias may be operating. Although I have attempted to limit the effects of selection bias by selecting for my sample only those women who had completed their high school diploma or GED, selection bias has not been specifically controlled for. Thus, the results of this study may simply reflect the possibility that the military is selecting minority women for service who have roughly equivalent socioeconomic potential as those minority women who are not selected or who do not self-select for military service. If the effect of military service is negligible, than one would expect to see little difference in the socioeconomic status attainment of minority veterans and minority non-veterans.

The possibility that white, non-Hispanic women who are selected for military service may already have a lower status attainment potential than those who are not selected or do not self-select for military service could also, then, account for the veteran disadvantage which I found for this racial/ethnic group. This may be especially true if white, Non-Hispanic women who enter the military are less able to complete a college degree than their non-serving counterparts because they have, on average, lower cognitive ability and/or relatively fewer family financial resources. Although some research has addressed the issue of selection bias for male veterans, there is a need for future research to explore this issue with regards to women.

There are several other areas which future research on veteran socioeconomic status attainment should address which I have either not explored in this paper or have examined only in a superficial manner. One of these areas is the effect of local labor market conditions on the status attainment of veterans. An advantage of this study over previous research is that I have been able to control for several local labor market conditions. However, other than the concentration of veterans and active duty personnel in the LMAs' labor forces, I have not really addressed the other labor market variables which I have included as controls in my analysis. A quick glance back through the various regression models, though, shows that many of these are consistently significant determinants of both earnings and family income for veterans and non-veterans alike. Even the military characteristics of labor markets need to be further examined. For example, although I did not pursue this issue within the framework of this paper, there is some evidence that the relationship between the percentage of a labor force that is on active duty and socioeconomic status attainment may not be linear in nature.

Although the PUMS-L data used in this study do allow the analysis of local labor market conditions, there are certain drawbacks to its use that future researchers should consider. First, there is no information on the jobs which veterans had or the training that they received while still in the military, which makes it difficult to draw a complete picture of veteran status attainment. As the transferability of job training is a major component of the bridging environment hypothesis and is certainly critical in evaluating the value of an individual's military service, this deficit of information is one which is relatively important to correct. Second, these data are not longitudinal. This makes it extremely difficult to perform any analysis based on a life course perspective, which may

be important in the interaction of military and familial variables. Future studies, then, should consider the use of longitudinal data for analysis. Third, the small number of minority, especially white, Hispanic and those of "other" races/ethnicities, makes it extremely difficult to achieve any statistically significant results for these groups, regardless of the substantive differences between veterans and non-veterans in these categories. In the future, these groups may need to be oversampled in order to obtain better results.

Future research should also explore further the relationship between the socioeconomic status attainment of veterans and those who are still on active duty and those who have served only in the Guard or Reserve. However, data used to make such a comparison should contain several pieces of information which were not asked of respondents of the 1990 Census. These are: 1) a more realistic measure of the earnings of active duty personnel which includes the value of benefits such as free medical care and on-base housing (this measure should also be included for other military status categories, although it would be applicable to a smaller percentage of them); 2) more detailed information on rank or officer/enlisted status of both military personnel and veterans; 3) branch of service; 4) a category for prior accession Guard and Reserve personnel; and 5) more detailed information on the military status of Guard and Reserve personnel such as length of service, period of service, etc.

Finally, the most important thing that future research can do is continue to study women veterans. As I stated in my introduction, women veterans are a significant population which remains underrepresented in the published literature. While this paper certainly adds to the relatively small literature base, additional studies need to be

accomplished in order to confirm the reliability of my findings. Furthermore, research on women veterans is not only important for the study of the effects of military service on socioeconomic status attainment. To the extent that young women who are considering military service are aware of the relative advantages and disadvantages of serving in the military or becoming a veteran, their propensity to serve in the U.S. Armed Forces may be significantly influenced in either a positive or negative direction.

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